

8932 missing Jan 14
76 may 15.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE
SUCCEED
FOUNDED 1876

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE *

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1876.

PUBLISHED AT LONDON, ONTARIO, JANUARY 15, 1902. WINNIPEG, MANITOBA. No. 542

Land for Everybody.

Free Grants of Government Lands.
Cheap Railway Lands for Sale on Easy Terms.

GOOD SOIL. PURE WATER. AMPLE FUEL.

Take your choice in

Alberta, Assiniboia, Saskatchewan or Manitoba.

Most desirable land can be obtained in Southern Alberta in close proximity to the Calgary and Edmonton Railway and the Crow's Nest Pass Railway, suitable for Mixed Farming and Ranching on both a large and small scale.

Most desirable land can be obtained in the Olds District, along the line of the Calgary and Edmonton Railway, about fifty miles north of Calgary.

In the Prince Albert, Duck Lake and Rosethorn Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway.

In the Beaver Hill District and along the line of the Manitoba and Northwestern Railway.

For full information concerning these Districts, Maps, Pamphlets, etc., FREE, apply to

Osler, Hammond & Nanton,

LAND OFFICE.

440 Main St. WINNIPEG, MAN.

We'll Take the Lump.

We agree to take off a lump of any character from either horses or cattle with Fleming's Lump Jaw Cure or forfeit all pay. This certain remedy for Lump Jaw has proved equally effective for cure of Spavin, Splint, Curb, Ringbone, etc. Our guarantee covers lumps of every description. Very easy to use; can't harm; doesn't scab.

FLEMING'S LUMP JAW CURE

is sold by most druggists, or will be sent prepaid by mail to any address. Price \$3 per bottle, or three bottles for \$5.

Northcote, Ont., July 31st, '99.
Fleming Bros.,
Gents.—In my practice here in doctoring cows, horses, etc., I have come across your medicine for Lump Jaw. My experience with the medicine has been very satisfactory, and I find it does all you claim for it.
WESLEY PHILLIPS, V. S.

A postal will bring our new illustrated Pamphlet to readers of this paper.

FLEMING BROS., Chemists

Room J, 58 Bay Street, TORONTO, Ont.

NO SPAVINS

The worst possible Spavin can be cured in 45 minutes. Curls, Splints and Ringbones just as quick. Not painful and never has failed. Detailed information about this new method sent free to horse owners.

Write to-day. Ask for Pamphlet No. 1.

FLEMING BROS., 58 Bay St., Toronto, Ont.

Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, write at once.

IMPERIAL SILVERWARE CO., Box 508, WILSON, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

CONTENTS OF THIS NUMBER.

EDITORIAL	PAGE
AN IMPORTANT EDUCATIONAL AND ECONOMIC	43
IMPROVING THE FAIR	44
THE NEW MACDONALD SCHOOL	44
DANGEROUS EDITORS	44
A CALL TO FARMERS	44
NOTE FROM A LEADER	44
HORSES. THE EDUCATION OF THE HORSE	44
HORSE TRAINING AND EDUCATION	45
A CLOSE CALL FOR CRISCHUS	45
JOE PATCHEN (ILLUSTRATION)	45
MORE HORSES FOR SOUTH AFRICA	45
SAMPLE OF CANADIAN HORSES FOR THE BRITISH CONTINGENT, CANADIAN MOUNTED RIFLES, DECEMBER, 1901 (ILLUSTRATION)	45
CARE AND FEED OF THE OVEL	45
STOCK. RAISING BETTER BEEF STOCK	45
BRITISH STOCK SALES IN 1901	46
PROFIT IN PORK PRODUCTION	46
ADDRESS LABEL IMPORTANT	46
COMMENDED TO THE PEOPLE	46
SELF FEEDER FOR PIGS	46
SMITHFIELD CARCASS COMPETITIONS	47
THE SUFFOLK SHEEP	47
11-MONTHS-OLD SUFFOLK EWES AT THE O. A. C. (ILLUSTRATION)	47
PRINCE WILLIAM JEL. STIG (ILLUSTRATION)	47
TO MAKE THE DRUMSTICKS TENDER	47
TWO-YEAR-OLD SHORTHORN STEER (ILLUSTRATION)	47
SMITHFIELD SHOW FACTS	48
CANADA WOOLS	48
THE BACON PIG OF THE FUTURE	48
QUEEN ANNIE—3319—(ILLUSTRATION)	49
WHAT PURE AIR MEANS TO LIVE STOCK	49
BRUHLER (ILLUSTRATION)	49
SOUTHDOWN YEARLING WETHERS (ILLUSTRATION)	49
FARM. FARMERS AND THEIR FIRE INSURANCE	49
DELAYS ARE DANGEROUS	49
FIRST-CLASS KNIFE	49
CAN THE FARMERS COMBINE?	50
CO-PARTNERSHIP WITH NATURE	50
KEEPING OUR FIELDS UNDER CHOP	50
THE FEEDING OF SILAGE	50
CUTTING CORN FOR ENSILAGE	50
SNOW AS A FERTILIZER	51
BIBLE, KNIFE, PAPER—ALL GOOD	51
LARGE CATTLE AND HORSE BARN (ILLUSTRATED)	51
TANNING HIDES FOR ROBES AND MATS	51
JUDGING CLASSES AT GUELPH	52
A WORD FOR THE FARMER'S BOY	52
OUR POPULAR PREMIUMS	52
THE LATE SIR JOSEPH H. GILBERT (ILLUSTRATION)	52
THE DEVIL'S LANE	52
DEATH OF SIR JOSEPH H. GILBERT	52
DAIRY. WINTERING STRIPPERS	52
JERSEY BUTTER TESTS IN 1901	53
VENTILATE THE STABLES	53
THE DAIRY TEST AT GUELPH	53
THE EASTERN ONTARIO DAIRYMEN'S CONVENTION	53
POULTRY. PRODUCING WINTER EGGS	55
WEIGHTS OF POULTRY	55
GARDEN AND ORCHARD. THE FRUIT MARKS ACT	55
BEST AND MOST PROGRESSIVE	55
APIARY. BEES UNDER SNOW	56
QUESTIONS AND ANSWERS.	
VETERINARY: WASHY COLT; GASTRITIS IN MARE; CRACKED HEELS; UNTHIRTY HORSE; LUMP ON COLT'S JAW (OSTEA POROSIS); COW'S MILK FOR COLTS AFTER WEANING; TORPIDITY OF THE KIDNEYS; ABORTION IN COWS; INAPPETENCE IN CALF; SUSPICIOUS COUGH AND DISCHARGE FROM NOSTRILS; ABOUT DOCKING COLTS; RINGWORM; BLACK LAMBS; LAME FILLY; UNTHIRTY COLTS	56, 57
MISCELLANEOUS: PLANNING A BARN; THE BUTTER COMES NOW ALL RIGHT; WANTS THE PAINTING; LUCERNE FOR WINTER COW FEED; INEFFICIENT BULL; SCOURING ON ROAD; SHORTHORN HISTORY; VENTILATION PLAN ASKED FOR; ONTARIO FIRE RANGERS; ROOTS WITH ENSILAGE—CORN CULTURE; COLOR OF PIGS—A RIDGELING BULL; PUMPING WATER TO BARN TANK; SOUR SILAGE; GRAY TURKEYS WANTED	57, 58
MARKETS.	
FARM GOSSIP: AT THE OTTAWA EXPERIMENTAL FARM; AN INDEPENDENT JOURNAL; CLOVER THRASHING MACHINERY; ARTIFICIAL FEEDS APPRECIATED; BRET SUGAR IN COLORADO; OUR HOG MARKET REPORT PAID HIM	58
MONTREAL MARKETS	58
TORONTO MARKETS	58
BUFFALO MARKETS	58
CHICAGO MARKETS	58
BRITISH CATTLE MARKETS	59
HOME MAGAZINE. THE FAMILY CIRCLE	59
"JOHN ALDEN AND PRISCILLA" (ILLUSTRATION)	61
THE QUIET HOUR	62
THE CHILDREN'S CORNER	62
"STUDYING OUR CHRISTMAS ADVOCATE" (ILLUSTRATION)	62
GOSSIP	63, 64, 68, 69, 70, 71
LIVE STOCK ASSOCIATION MEETINGS	64
COTSWOLD BREEDERS MEET	64
CANADIAN JERSEY CATTLE CLUB	68
AMERICAN CLYDESDALE BREEDERS MEET	68
NOTICES	63, 64, 70, 71
ADVERTISEMENTS	41 and 42, 63 to 76

THE Canadian Packing Co.

LONDON, ONT.

ASK YOUR GROCER FOR



LARD, BACON, HAMS, CANNED MEATS.

GUARANTEED

Choice and Pure.

GOLD MEDAL, PARIS, 1900.

Cheese and Butter.

Makers of these articles, in many instances, do not pay the necessary attention to the quality of the Salt they use. Some people think that "Salt is Salt," and it does not matter where it comes from or who makes it. This is a great mistake, for it is essential that to produce the best Butter or Cheese nothing but the purest Salt should be used. The number of prizes obtained by users of—

COLEMAN'S OR RICE'S

Dairy Salt

at the various exhibitions is conclusive proof that these brands of Salt stand unrivalled.

FOR PRICES, ETC., ADDRESS

R. & J. RANSFORD
OLINTON, ONT.

Established 1868.

USE ULRICH'S ENSILAGE CORN:

Mammoth White
Giant Prolific
Yellow Dent
Improved Leaming
Red Cob

E. R. ULRICH & SONS

Main Office: Springfield, Ill.

Ask your dealer for ULRICH'S seed corn. Take no other.

PLEASE MENTION FARMER'S ADVOCATE.

PUBLISHED TWICE A MONTH, AT LONDON AND WINNIPEG, CAN.

BRANTFORD STEEL WIND MILLS

19th CENTURY
20th CENTURY

GAVANIZED ROLLER BEARINGS

POWER AND PUMPING MILLS
STEEL TOWERS AND FLAG STAFFS, IRON AND WOOD PUMPS, MAPLE LEAF GRAIN GRINDERS, BEE SUPPLIES

OLD SHAPLEY MILL

BRANTFORD, CAN.

ALL YOU NEED TO KNOW

If interested in practical education, is the name of our splendid school, the

Central Business College
TORONTO.

We thoroughly prepare young people for the business duties of life by our complete courses in Accounting, Telegraphy, Short-hand, Typewriting, etc. We provide a dozen capable teachers and eighty typewriting machines, and produce good results. EXTRA KEY TYPE, CHINESE AND JAPANESE.

Yonge & Gerrard Sts. W. H. Shaw, Prin.

ALMA
Leading Canadian College

FOR YOUNG LADIES
ST. THOMAS, ONT.

Preparatory and Collegiate studies through Senior University Matriculation, made with University examination. Fine Art, Commercial, Education and Domestic Science. Home-like appointments, good board, cheerful nurses, personal oversight in habits, manners and daily life. For catalogue, address:

Rev. Robert L. Warner, M.A. Principal

YOUNG MAN! YOUNG WOMEN!

Prepare to make a success of your future undertakings by taking a course at

NORTHERN Business College
OWEN SOUND.

In either Shorthand or Business subjects. A course at this institution will raise you above the many who are endeavoring to make a living by common means. You cannot afford to go elsewhere, for our methods and equipment are unequalled. Winter term now open. Students admitted at any time. Catalogue free.

C. A. FLEMING, Principal.

A FAMOUS SCHOOL!

CENTRAL Business College
STRAFFORD, ONTARIO.

Famous for its high-grade work in business education. Enter now.

W. J. ELLIOTT, Principal.

TORONTO ENGRAVING CO.
92 BAY ST.
CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALTY.

Mason & Risch Pianos

Will suit you in every respect. Prices to suit. Some second-hand ones of different makes at greatly reduced prices.

PIANO PARLOES:
211 DUNDAS STREET, LONDON.

Sheet Steel Ceilings

have many advantages over those of wood and plaster. There are no expenses for repairs due to leaking roofs and the moving of heavy furniture. They never crack or warp. They are both fire and water-proof.

PEDLAR STEEL CEILINGS combine these valuable features with handsome, artistic designs, light and elegant appearance, simple and practical construction, and the highest form of ornamentation. Joints are unnoticeable—use of panels avoided. Special drawings are made for each ceiling, showing exact position of every piece, without extra charge. We will send catalogue to those interested in house construction on request.

THE PEDLAR PEOPLE, Oshawa, Ontario.
Eastern Branch: 22 Victoria Square, Montreal.

Tread Powers.
25 YEARS' EXPERIENCE

THE SECRET OF SUCCESS

Is in knowing how to build a tread power to run easy when say three heavy horses are on the platform so as to generate the largest amount of power possible. Knowing this together with our up-to-date Governors, makes the Watford tread power the most desirable. With us Feed Cutters and Grain Grinders and Tread Powers are a special study. Originators and patentees of up-to-date improvements.

Thom's Implement Works,
WATFORD, CANADA.

U S U S U S

The U.S. Separator
NOT ONLY RECEIVED GOLD MEDAL THE HIGHEST AWARD at the Pan-American Exposition Buffalo, 1901 but its work there in the Model Dairy EXCELLED EVERYTHING

Those who want the Best Should buy the U. S. "The Kind That Gets All the Cream."

U S U S U S

V.T. FARM MACHINE CO. BELLOW'S FALLS, VT.

Catalogue Printing Our Speciality.

Many of the best catalogues in Canada are produced by us. Large type faces, designs, ornaments, and modern machinery. Best in America. Up-to-date covers designed by special artists without extra charge.

London Printing & Litho. Company, Ltd., LONDON, ONTARIO.

Write and See.

Don't Let Prejudice Keep you from getting Well.

No Money is Wanted.

Simply write a postal for the book that applies to your case. See what I have to say. You can't know too much about ways to get well.

My way is not less effective because I tell you about it. There are millions of cases which nothing else can cure. How can I reach them save by advertising?

I will send with the book also an order on your druggist for six bottles Dr. Shoop's Restorative. I will tell him to let you test it for a month at my risk. If it cures you, the cost will be \$5.50. If it fails, I will pay him myself.

The book will tell you how my Restorative strengthens the inside nerves. It brings back the power that operates the vital organs. My book will prove that no other way can make those organs strong.

No matter what your doubts. Remember that my method is unknown to you, while I spent a lifetime on it. Remember that only the cured need pay. Won't you write a postal to learn what treatment makes such an offer possible?

Simply state which book you want and name of your dealer, and address Dr. SHOOP, Box 51, Racine, Wis.

Book No. 1, on Dyspepsia.
Book No. 2, on the Heart.
Book No. 3, on the Kidneys.
Book No. 4, for Women.
Book No. 5, for Men (unread).
Book No. 6, on Rheumatism.

BABY'S OWN SOAP

Is, without any exception, the best soap for toilet or nursery.

IT SOFTENS THE SKIN
And makes it perfectly healthy.

Don't experiment with imitations.

Albert Toilet Soap Co., Mfrs., Montreal.

WINDMILLS

The above is a correct cut of the **Canadian Airmotor**

A neat ornament on YOUR BARN.

More than this: It will "hustle" for you all the year around. Ask your neighbor who has one.

ONT. WIND ENGINE & PUMP CO.
LIMITED. TORONTO, ONT.

GRAMMING MACHINES,
FATTENING COOPS,
Incubators and Brooders
POULTRY SUPPLIES.
A. J. MORGAN, MFR., LONDON.
Catalogue free. om

ROGERS' "S" PEERLESS MACHINE

NOT AFFECTED BY CLIMATE CHANGES. BEST ADAPTED OIL MADE FOR GENERAL USE OF ONTARIO FARMERS. MORE USED, MORE SOLD. JUST AS CHEAP AS THE OTHER. AND SO MUCH BETTER. YOU KNOW HOW IT WAS ABOUT OIL LAST YEAR. YOU WANT PEERLESS THIS TIME. ALL GOOD HARDWARES AND GENERAL STORES SELL IT.

QUEEN CITY OIL CO., Limited, TORONTO.
SAMUEL ROGERS, PRESIDENT.

RIPPLEY'S COOKERS

Are now made in Canada, saving duty and freight for our customers. Made of boiler steel. No flues to rust or leak. Will cook 25 bushels roots or grain in two hours. Fine for heating stock water-tanks, dairy rooms, pig-pens. Can be used outside or attached to a chimney same as a stove. Used and endorsed by the following Canadian breeders and many others: Brethour & Saunders, Barford; W. D. Platt, Hamilton; D. C. Platt & Son, Millgrove; H. J. Davis, Woodstock; Ontario Agricultural College, Guelph; also James Roden, Graham Bros., Newton & Gosh, J. A. McDonald, J. P. Conroy, Prices, \$10 to \$15. Took first premium at Toronto and London fairs. Catalogue and prices mailed free. Address: **RIPPLEY HARDWARE COMPANY,** BOX 215, LONDON, ONT. U. S. Factory: Grafton, Ill. om

The
Farmer's Advocate
and Home Magazine.

"PERSEVERE AND SUCCEED."

ESTABLISHED 1866.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. XXXVII.

LONDON, ONT., AND WINNIPEG, MAN., JANUARY 15, 1902.

No. 542

EDITORIAL.

An Important Educational Announcement.

Nature Study and Domestic Science Training at the Ontario Agricultural College.

Two or three years ago, Sir William Macdonald, the Montreal millionaire, with a generosity marked by equal wisdom and patriotism, devoted \$75,000 to the purpose of introducing Manual Training into the Public Schools of Canada. Later, he gave \$10,000 to provide prizes for boys and girls in the seed-grain competition. Last week his munificence received another practical exemplification in his placing the sum of \$125,000 at the disposal of the Ontario Government, to be devoted to the furtherance of Nature Study and Domestic Science in the Public Schools.

We have not at hand the text of the conditions governing the last gift, save the semi-official announcement that it is to be expended, in part at least, in the erection of suitable buildings in connection with the Agricultural College at Guelph, in which instruction will be given to teachers in Nature Study and to women in Domestic Science in relation to agricultural life; and that the donor hopes by this means to prepare teachers to train children to understand and love nature so that life on the farm, for both men and women, will become attractive, enjoyable, and successful.

The acceptance of the gift places a heavy responsibility on the shoulders of its immediate recipients, since the use of it will be watched and criticized by the farmers and educators of the country as well as by the maker of the gift. There will be no disagreement as to the laudability of the purpose to which it is designated, but there will be strongly-marked diversity of opinion as to the best means of accomplishing such purpose.

In the crisis of Prussia's humiliation succeeding the disastrous days of Jena and Friedland, the schoolmaster, Fichte, taught the King and his counsellors that what they would desire to see in the nation's life they must plant in the nation's school. Frederick William, convinced of the truth, declared that although territory, power and prestige are lost, his people must strive to regain them by acquiring intellectual and moral power; national education was immediately elevated to the rank of a separate and important branch of state administration, and to-day the world stands astonished at the progress Germany has made as a result of the adoption of that wise policy. There are a good many people in Canada who, with Sir William Macdonald, believe in Fichte's doctrine, and who think also that our present educational system is not sowing the seed in the schools best adapted to the life of this nation. It is foolish to close our eyes to the fact that the traditional school—the school of the present day—does not prepare for life on the farm or in the factory so well as it prepares for a non-industrial life. The "Farmer's Advocate" does not desire to see our Public and High Schools converted into trade schools. It claims as much general culture for the farmer and mechanic as for the merchant or teacher, but it contends that without sacrificing literary culture or mathematical training in the least degree, methods of teaching and subject matter of in-

struction can be so modified as to prepare the future industrialist—be he farmer or manufacturer, lumberman or miner—for far more efficient living, for a life richer in enjoyment and usefulness. At the present moment, to mention one particular, there are hundreds of young men and women preparing to become teachers in the Public Schools of the Province of Ontario who are spending a great deal of time in memorizing the vocabularies, conjugations and declensions of Latin, French, and German. Few of them will go far enough to turn this learning to practical account, while the disciplinary or cultural value of the smattering is insignificant compared with what they would derive from a similar investment of time and effort in a more extended knowledge than they are getting of general history and geography, English literature and those subjects that Sir William Macdonald desires to see taught in the new school about to be founded. The quarter of a million that he is giving to the cause of elementary education in this country is witness not only of his wise and princely generosity, but also of his conviction that the present system is leaving an important work undone.

But, "What is Nature Study, anyway?" will be asked, and the answers will be various. The term is even more likely to be misunderstood than "Manual Training," which no longer ago than last year a Canadian university principal confused with Technical Education.

The new educationist says that the proper center of study is the child, but a more common opinion is that there are two centers, viz., man and nature. The man-studies, or humanities, as they are commonly called, are such as language, literature, history and ethics, while the nature-studies are those based on the objective environment—the sciences. The formal or expression studies—reading, drawing, writing, numbering, etc.—are or should be subsidiary to the two groups named, although they are pretty commonly given paramount place in our Public Schools.

Man, in his attempts to gain knowledge of nature, divides it into more or less related groups of objects, and the truths that he has discovered pertaining to each is called a science. Botany is the science of plants, entomology of insects, astronomy of the celestial bodies, and so on through a long and increasing list. Agriculture, domestic economy and the various other trades are applications of the truths taught in the pure sciences, and may be called applied sciences. In each of the sciences there are truths within the comprehension of the little child as well as those that tax the understanding of the ablest thinkers. To many people nature study means simply elementary science, and nature study taught under the aegis of an agricultural college is likely to be the elements of the sciences peculiarly applicable to agriculture.

This rather prevalent idea is true only thus far, that elementary science is for the most part the subject matter of nature study. Prof. Bailey, of Cornell, happily says that when a teacher is thinking mostly of his subject he is teaching science, but when he is teaching genuine nature study he is thinking mostly of the child. To put the child into right relations with his environment, or surroundings, and to give him power to make the best use of his faculties, are the primary purposes of nature study; the scientific knowledge acquired is secondary. The "how" the fact is taught is more important than the

"what." It is the method of teaching far more than the subject-matter of his lessons that will measure the efficiency of a nature-study teacher. A nature-study school will fail to accomplish the purpose of its existence if it is not a real model school in which the students-in-training will be directed in the actual practice of teaching children. Not every one who knows the alphabet can teach it successfully; there is even a wider step between knowing elementary science and teaching nature study. It is vastly easier to teach a grown person a fact in science than to teach him how to deal with that fact in training a class of young children. Lectures on learning to ride a bicycle would be about as useful in acquiring that art as lectures on the pedagogics of elementary science would be in acquiring the art of teaching nature study. If there is not to be actual model-school practice, then the school should be called an elementary-science school, and it will but do the work which should be done in every High School and Collegiate Institute that pretends to give the academic preparation for intending teachers.

But, again, nature study correlates with reading, mathematics, English composition, geography, and literature; indeed, they correlate so intimately that they must go hand-in-hand to avert serious harm to both classes of studies and consequently to the child. If the intimate unity and interdependence of the man-studies and the nature-studies be adequately realized, and the proper methods of teaching them be acquired by practice, the new Nature-study School for teachers will be nothing short of a Normal School. There is no valid reason why the existing Normal Schools at London, Toronto and Ottawa should not be made as genuine nature-study schools as the one projected at Guelph, and, conversely, that the latter should not be as real a Normal School as any of the former. If this desirable possibility become a fact, Sir William Macdonald's generous gift will produce rich and far-reaching results. It will enlarge the usefulness of all the Normal and Model Schools, hasten reform of the High School course for Public School teachers' certificates, and in a short time improve the standard of teaching throughout the Public Schools of the country. But an isolated academic course in science in the new school will fall far short of these glorious possibilities. Recent addresses of the Hon. Mr. Harcourt, Minister of Education, show that he is abreast of the best thought in the matter of adapting the system of education to the needs of the country, a fact that increases our hopes of great things from the proposed school.

Note.—Since the foregoing article was put in type, an outline of the conditions governing the employment of Sir Wm. Macdonald's gift has been published, but it is not yet made clear whether or not the attendants at the school are to receive practice in teaching nature-study work. We will deal further with the subject in next issue. There is also an intimation of legislation in the Province of Ontario this season, making it permissible on the part of groups of rural school sections to consolidate and establish graded schools, which would mean discarding the present small schools in use, the pupils all attending one large, graded school, with more modern building and equipment and larger staff. What say our readers to this proposition? It is said to be in operation successfully in several Western States localities.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED SEMI-MONTHLY BY
THE WILLIAM WELD COMPANY (LIMITED).

TWO DISTINCT PUBLICATIONS—EASTERN AND WESTERN.

EASTERN OFFICE:
CARLING STREET, LONDON, ONT.

WESTERN OFFICE:
MCINTYRE BLOCK, MAIN STREET, WINNIPEG.

LONDON (ENGLAND) OFFICE:
W. W. CHAPMAN, Agent, Fitzalan House, Strand,
London, W. C., England.

JOHN WELD, MANAGER.

1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.
2. TERMS OF SUBSCRIPTION—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscriptions, 6s. 6d., or \$1.50. New subscriptions can commence with any month.
3. ADVERTISING RATES—Single insertion, 20 cents per line, agate. Contract rates furnished on application.
4. THE ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be paid as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to this office, either by Money Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
8. ANONYMOUS communications will receive no attention.
9. LETTERS intended for publication should be written on one side of the paper only.
10. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
11. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

Improving the Fair.

We congratulate the public-spirited ratepayers of Toronto upon the overwhelming majority with which they carried the by-law granting \$133,500 for the erection of new buildings for the Industrial Exhibition. The business and municipal leaders of Toronto are backed up by the people in determining that the fair of the future is to excel its predecessors in utility, attractiveness, and success. In 1900 the side-show and faker element, ran riot and signs of degeneracy, from a mercantile and manufacturing point of view, had set in. This alienated public sympathy and confidence; but last season witnessed a very decided improvement and a determination on the part of the management to make it par excellence a real industrial exhibition of an attractive character, but not surfeiting the people with "attractions." Public confidence has evidently been restored, for the money once refused is now cheerfully voted. Great credit is due the press of Toronto for their share in the good work. Foremost among the needs is a new main building, which should be a veritable hive of industry; a new dairy building, where products, apparatus and dairy processes can all be properly represented under one roof; better accommodation for the carriage exhibits; and a suitable pavilion where the judging of cattle and other live stock can be viewed by the public, making it what it should be, a valuable educational feature of the fair. Our people are hungering for information, and can be educated to appreciate a high-grade fair as well as a circus, as witness the success of the Ontario Winter Fair. The Pan-American ran to "attractions," "fireworks" and the "midway," and was a great financial failure; the Glasgow Exhibition tended in the other direction, and proved a boon to the great Scottish city and a wonderful financial success. Toronto is on the right track, and the other big Canadian fairs will feel the stimulating and healthful influence of its example.

The New Macdonald School.

Dr. James Mills, President of the Ontario Agricultural College, and Mr. G. M. Miller, architect, have been on a tour of observation to various educational institutions in the Western States, and make a similar tour through the Eastern States, preparatory to deciding on suitable plans for the new nature-study and domestic-science building for teachers at Guelph. We understand that it is to be located on the Agricultural College grounds, north of the present main building and that probably \$100,000 out of the \$125,000 given by Sir Wm. Macdonald, of Montreal, will be expended upon its construction. So far as the relation of the institution to the public educational machinery of the country and its beneficial influence upon our school system are concerned, the problem of paramount importance now will be the policy and plan of its operations, which is dealt with at some length in the leading article of the present issue of the "Farmer's Advocate." The very nature of the gift to the Province implies long and serious consideration on the part of the donor, and, since the first intimation of it, by the Provincial authorities specially concerned. As readers of the "Advocate" might also infer from articles published some issues ago, the subject is one that the Dominion Agricultural Commissioner, Prof. Jas. W. Robertson, has taken a very active share in promoting.

Dangerous Edibles.

One of our American contemporaries has the following to say of a recent occurrence:

"The St. Paul representatives of three meat-packing houses—Armour, Swift, and Morris—were fined \$25 each, recently, for the use of preservatives in sausage and meat products, such as are supplied to consumers by the retail meat dealers and grocers who sell meats. Investigation disclosed that scarcely any of these products offered to the public were without the presence of preservatives of some kind, principally borax, salicylic acid, and occasionally formaldehyde. The use of these is forbidden by law. It is the same general proposition as the 'embalmed beef' which caused the army so much trouble in Cuba and the Philippines. Only there they used the preservatives in larger quantities. The preservatives retard the digestion of the meat, and of course injure the stomach."

If there is one thing, as Canadians, we can congratulate ourselves on, it is the absence of filled cheese, oleomargarine, etc. Counterfeits of edibles are prohibited and are not manufactured in Canada. We produce the real thing!

A Call to Farmers.

The columns of the "Farmer's Advocate" have ever been devoted to the furtherance of progressive agriculture, one form of which we believe to be in the establishment of an agricultural college by the Province of Manitoba. In view of the fact that rumors of elections are in the air, the farming community should see that their interests, educational and otherwise, get the attention from the political parties that their importance warrant. Every candidate should be pledged to agitate for and support the establishment of an agricultural college. This should be made a personal matter, and each and every farmer should pledge his representative, of whatever political stripe, to vote in the House and lobby for an agricultural school. Public opinion among the farmers is strongly in favor of such a school, and we consider the time ripe to bring the matter to a head. Little or no attention need be expected from any Government towards the school unless the farmers themselves insist strongly that it be established at an early date. The farmer members of the Agricultural Commission are enthusiastic over such a school, as a result of their recent tour of inspection. As we have stated before, there is a hunger for such training as can only be got at such an institution, and if farmers will only insist on their rights, they will succeed. In this connection we are reminded of the parable of the importunate widow, and to farmers we would say, "Go thou and do likewise."

Note from a Leading Breeder.

Dear Sirs,—I have the Christmas number of the "Farmer's Advocate," for which I am very much obliged. It is a beautiful number. I think this Christmas issue worth very much more than the subscription price for the whole year. I am sorry for the farmer who does not take the "Advocate," even if he only farms ten acres of poor land. I can truly say that it is invaluable to any farmer who wishes to be informed on any branch of farming. It is truly lamentable that so many farmers still refuse to take any high-class agricultural paper.

ARTHUR JOHNSTON
Greenwood, Ont., Jan. 2nd, 1902

HORSES.

The Education of the Horse.

Education is a term seldom used to express the development of the physical and intellectual faculties of the horse. When we hear of an educated horse, it usually suggests the idea of a trick horse or a circus horse. The term break is commonly used; it suggests the idea of conquering or quelling by force, and, unfortunately, this is too often the case. If a horse have vicious habits, as kicking, shying, running away, etc., it would be quite correct to speak of breaking him of those vices; but we can hardly say that a green colt is vicious, as he has had no opportunity of developing the most of the usual forms of vice, although he may be predisposed to them. Therefore, I claim that the term is misapplied, as you cannot break or cure an animal of a vice or habit which he does not possess. However, the term is so commonly used it may be better to continue its use to express the idea that certainly would be more clearly expressed by "education."

A horse is useful in proportion to the extent to which his physical and intellectual powers are developed, or, in other words, to the extent of his ability and education to perform whatever service is required of him. A colt should be handled and educated gradually from the time he is born, but in many cases he is allowed to run almost wild (sometimes not even halter-broken) until he is three or four years old, or until the time arrives that he is required for work, when, without any preparatory training or handling, he is hitched, either singly or with a mate, and expected to go to work at once. This, we claim, is irrational. It pays to take some time and trouble with a colt before asking him to perform the functions of a horse. To properly break or educate a colt, it requires a man of good common sense, one with considerable patience, one who understands horses, and who does not expect to teach the animal everything he should know in an hour or two. The man who undertakes the task should study the individuality of the colt, should use him kindly, if possible, and endeavor to avoid any conflict between his wishes and the will of the colt, but if such should arise, he should be in a position to gain the mastery, even though he has to use harsh means. On general principles, we give the following hints, although in some cases more severe measures may be necessary.

We will suppose we have a three-year-old that is simply halter-broken, and we expect him to go to work in the spring. In the first place, we would like a large box stall, or, failing that, a paddock or yard in which to give him the first few lessons. The first step is to give him a mouth, or, in other words, accustom him to the bit. This is a point that is often sadly neglected or abused; often a bit is put into his mouth for the first time and he is at once hitched, either singly or with a mate, and driven. Not being accustomed to the bit, and not understanding its use, he is apt to either shrink from its pressure or become excited from the pain caused, when he will plunge and bolt and be very hard to control. This makes the mouth sore, and often makes a side-puller or a lugger. The value of a horse, especially the saddle or light-harness horse, depends to a great extent upon his "mouth"—hence the advisability of taking some pains on this point. The better way is to put on a nice light bridle with an ordinary snaffle or straight bit, and allow the colt to wear it an hour or two a couple of times daily, in his stall or paddock, until he becomes accustomed to the bit and no longer fights it; then increased pressure can be put on by attaching reins to it and fastening them to a surcingle. Do this for a few hours each day, gradually tightening the reins until he will steadily yield to the pressure and submit to its restraint. In the meantime it is well to put some harness on to get him used to it. A little more may be added each day, and the straps should be allowed to hang loosely, not low enough to be trodden on, but hanging about his legs in order that he may learn that they will not hurt him. All this takes only a few minutes of the trainer's time each day, and if the lessons be commenced about this time of the year, there will be ample time before spring. Having thus given him a fairly good mouth, and having accustomed him to the harness, it is well to teach him to drive. For this purpose we prefer to take him singly, with the lines passed through the shaft loops and extending along his sides and thighs, in order to the more readily prevent him turning around, as he can easily do if the lines pass through the terrets. We would drive him without having him hitched to anything. Use as few words as possible, but pronounce the words distinctly. Always use the same word to express the same action. When we say "Whoa," let him know that he is to stand still; when we say "Back," teach him that he is to step backwards, etc. If (as is often the case with those driving both colts and horses) we say "Whoa" when we simply want him to go steady, or

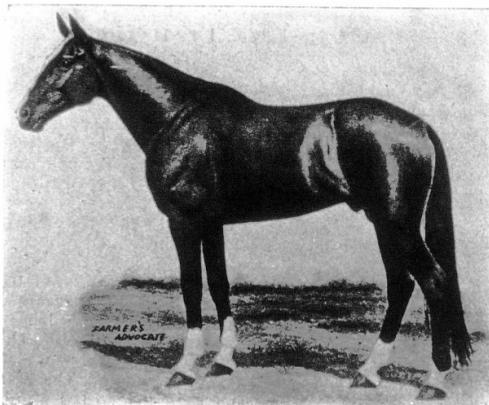
"Whoa, back," when we want him to break from a trot into a walk, and many such terms, we must of necessity confuse him and cannot expect good results. Let us use certain words to express certain ideas: always use the same words, and teach him that he is to obey. By driving him this way a few times, getting him to rein well and obey the word of command promptly, we soon have him ready to hitch. If we have a good, well-broken, steady but prompt horse, it is well to harness the colt with him and drive a few times without hitching, but unless we have a first-class mate we prefer hitching him singly. For this purpose everything should be strong. If our harness or rig be old and weak, it may break, frighten the colt, cause him to run away and undo all the good we have done. We want good strong harness, fitting him comfortably, and a good strong two-wheeled rig. Even when there is snow, we prefer a two-wheeled rig to a cutter. It is good practice to drive a kicking-strap (or, more correctly speaking, an anti-kicking strap) the first few times. This is a precaution that it is well to take, as even though we have been very careful in our preliminary education, a colt will sometimes try to kick when first hitched, and if he succeed he may not only injure himself and give his driver trouble, but acquire a vice that is often hard to cure. When once we commence driving him, we should give him a lesson every day until he becomes handy. When we tie him at first, we should select a fence, building, or some place where he cannot run forward or around, and use a strong rope, tied around the neck and run through the ring of the bit. Use a rope that he cannot break, in order to teach him that he must remain where tied. If he once acquire the habit of breaking ties, he will become a nuisance; but if tied securely at first, there will be little trouble. After he is fairly handy in single harness there will be little trouble in getting him to go in double harness, and when we commence this it is well to drive him on alternate sides for a while. A well-broken horse should drive equally well on either side, or singly. "WHIP."

Horse Training and Education.

We sometimes buy a horse or raise one that is hard to catch in the field, a fault that is perplexing and causes loss of time and patience. Sometimes we carry oats and salt, and then fail to catch the horse. We call out all the members of the family and run the risk of somebody getting hurt in the mix-up. This may be thought a queer time to write about catching horses, when they are all tied by the head in the stable, but there will very likely be a summer in 1902. Must we endure this teasing for years? Not necessarily so, and now is the time to do the mending. A small field of an acre or two, near the barns, is a very handy place for a number of purposes. Fence in a piece of grass some place, with a good fence, and have it ready for the first time you turn out the work horses in the spring. The horses being in the field, just hand a whip to the hired man and take one yourself, step out and call the horses, approaching them gently, attempting to catch one. He will skip out and leave you, but not very far. Now is your time. You stand near one end of the field and your mate near the other, cracking the whips, keeping the horse on the run until he is well sickened of the game, and you will have little trouble after a few lessons. Give an old horse a lesson of this kind and he will soon begin to look you in the face and beg you to come and take him with you. This hint is seasonable to those who have not such a training stable and who own such a horse or horses. SANDY COLTS.

A Close Call for Cresceus.

It is said that when Cresceus, the American trotter, who has done the mile in the record time of 2 1/4 secs., was foaled he was such a three-corned and unpromising colt, his disgusted owner ordered his throat to be cut. The deed was so far done that the horse carries the scar of the wound to this day, when Mr. Ketchan's trainer begged him off. Cresceus is described as a chestnut, wonderfully muscular, but with a coarse head and neck, a rather roach back, and enormous feet; he by no means captivates the eye, but has remarkably smooth action, with immense stride.



JOE PATCHEN, PACING RECORD 2.01 1/2. Sold for \$15,000 at Chicago horse market in 1897.

More Horses for South Africa.

We give in this issue a good engraving of a photograph of a group representative of the 996 horses recently purchased by Mr. Walter Harland Smith, Toronto, for the Second Contingent, Canadian Mounted Rifles, selected in December, 1901, the following memo. showing number of horses purchased in each district. It may be mentioned that Mr. Smith was requested, in collecting these horses, to seek for none in Middlesex County, as Col. Dent was at that time operating in that district.

District	Horses
Ontario—	
Essex	7
Kent	62
Lambton	51
Elgin	9
Huron	32
Perth	19
Oxford	24
Norfolk	15
Brant	9
Wentworth	34
Welland	15
Waterloo	12
Haldimand	15
Halton	22
Peel	43
Wellington	12
Cardwell	12
Simcoe	40
West York	36
North York	22
Ontario	64
West Durham	28
Northumberland	40
Hastings	17
Frontenac	30
Lennox	15
Ottawa District	100
	785
Manitoba	80
Quebec	31
Nova Scotia	100
Total	996

Care and Feed of the Colt.

As regards rations, I would, of course, recommend good sound oats and bran, a very little flaxseed meal, carrots, and good bright hay. A little corn ensilage once daily is also recommended, although I have had no experience using it. Skim milk can be fed with great benefit to young colts, and if fed judiciously nothing will give better results. Continue giving the colt a grain ration when going on pasture the following summer, and if at all convenient have him gently handled and halter-broken. As he grows up he will require to be carefully broken to harness—the first operation being to teach him that he has a mouth. Use great kindness and patience in biting him, and on no account lose your temper or you will almost certainly spoil him. In England what is termed a "dumb jockey," or biting harness, is frequently used before the colt is harnessed. A belt or surcingle fastened around the girth and checked from the bridle serves a similar purpose. With this rigging the colt may be turned into a yard for an hour or two daily and he will afterwards be much more tractable; in fact, partially broken. Our horses are not well broken, according to European standard, and many foreign buyers find it necessary to break them again after importation, with the view of teaching them better horse manners. This, of course, refers only to carriage horses, however. In raising that class it will certainly pay to be very particular in the breaking and handling of colts, as many a promising, highly-bred young horse is absolutely spoiled through imperfect or careless breaking.

In addition to breaking, the colt must be taught obedience under all circumstances, and accustomed to all city sights and sounds. With the draft horse there is usually little trouble in this respect, and buyers will rarely enquire whether or not the horse is accustomed to steam or trolley cars. But in carriage horses it is different. No horse is safe or fit for a carriage until he can be relied on to stand under a volley of artillery. ALEX. GALBRAITH.

STOCK.

Raising Better Beef Stock.

To the Editor "Farmer's Advocate": Sir,—In the Mark Lane Express, Dec. 9, 1901, I read that the number of exportation certificates granted by the Shorthorn Society during the period from July 30 to Nov. 4, 1901, was as follows: To Canada, 131; United States, 122; Germany, 17; Russia, 15; New Zealand, 3; Australia, 1; South America, 1; Siam, 1. Canada heads the list, and the importations are greater than at any corresponding period since 1881-1883. Many of them are of the milking strains, which, from the dairy standpoint, is very gratifying, and the other imports which must be increased in future in face of the keen competition for the British trade of foreign beef, which now amounts, alive and dead, to about twelve and one-half million dollars a month. The Mark Lane Express, commenting upon the leading article in the "Farmer's Advocate" for November on the same subject, says: "The Canadians know what they are at," and it is sensibly urged that "Canadian farmers who are inclined to beef production would do well to set about rearing a better class of beef animals by the use of pure-bred males of that type." In spite of the perfection of the American dressed-beef industry, Americans evidently find it more profitable to ship their choice beasts alive than in the carcass form. London, Eng., Dec. 6. JOHN DYKE.



SAMPLE OF CANADIÁN HORSES FOR SECOND CONTINGENT, CANADIAN MOUNTED RIFLES, DECEMBER, 1901. PURCHASED BY MR. WALTER HARLAND SMITH, TORONTO, THE WIDELY-KNOWN AND SUCCESSFUL DEALER IN HORSES.

British Stock Sales in 1901.

For the following resume of British stock sales in 1901 we are indebted to that unique sale record compiled by Mr. W. W. Chapman, F. S. S., wherein are recorded upwards of 1,800 separate sale results, which are a most valuable means of reference from which to obtain the general range of values of pedigree stock in the Old Land during the period under review, which is published in extenso in the Farmers' and Stock Breeders' Annual, London, England.

Commencing with Shire horses, the top price for a stallion was £1,627 10s., obtained by Mr. Crispe. The same breeder also made the top price of the year for colt foals, £252, and brood mares, £981 15s. Sir J. Blundell Maple, Bart., made top values for three-year-old stallions, £367 10s.; two-year-old stallions, £472 10s.; four-year-old mares, £567; also for three-, two- and one-year-old fillies, namely, £480 10s., £577 10s., and £546, respectively, whilst the top price of filly foals was £110 15s. A gelding sale of record proportions also took place during the year, namely, one held by the late Lord Wantage, when 51 Shire horse geldings made an average of £88 17s. 2d., with the top price of £173 5s.

There were a considerable number of Hackney sales held during the year, and some high prices realized, amongst them the following: £304 and £451 10s. for stallions and three-year-old stallions, and £141 15s. for a colt foal, at Mr. J. Barler's sale; £420 for a brood mare at Mrs. Edmondson's sale, £294 for a two-year-old filly at the same sale; and £315 15s. for a three-year-old filly at Mr. Moore's sale.

In Clydesdale sales, from the authority we are using, we find that the highest sale values recorded in the public press were: For stallions, £651; two-year stallion, £126; brood mares, £351 15s., and yearling fillies, £158 11s.; all at the sale of Mr. J. Lockart. Sir J. Gilmour made top price for three-year-old stallion at a public sale, £136 10s., and Mr. H. Webster's £210 and £162 15s were the best recorded prices for three- and two-year-old fillies.

In the cattle section the Shorthorn leads the way. The sales held last year were not on the whole so satisfactory to the vendors as were those held the previous year, mainly on account of the loss of the Argentine demand. Mr. Duthie's notable sale heads the list, and his £682 10s. for a bull calf tops the male sale prices for the year; £164 17s. was the top price for a cow, made at Mr. J. A. Preece's sale. For two-year-old heifers the top figure was £152 15s., at Mr. H. Dudding's sale; for yearling heifer, £78, at Mr. J. Wilson's sale; and for heifer calves, £162 15s., at Mr. Anderson's sale at Saphock.

Aberdeen-Angus also had a capital year, the best sale prices being: Bulls, £189 (J. H. Bridges); bull calves, £110 (A. Eggingson); cows, £136 (same breeder as last named); two-year-old heifers (W. Whyte), £156 1s.; yearling heifers (A. Whyte), £110 5s.; and ditto heifer calves, £42.

Hereford cattle had a remarkable sale year, on account of the dispersal of the two noted herds owned by Mr. J. Price and Mr. Tudge. The latter made top recorded price for bulls, £346 10s.; and the former for bull calves, £126; cows, £220 10s.; two-year-old heifers, £210.

The best recorded prices for Galloways were: Bulls, £35 14s.; yearling bulls, £43; cows, £35 14s.; two-year-old heifers, £50, and yearling heifers, £25.

Jerseys sold remarkably well, particularly for the best specimens. The top recorded price for bulls is £76 15s., at Lord Rothschild's sale, but Col. McCalmont ran him very close with another that made £75 12s. At no less than four different sales there were cows that went over the century, a very notable fact for the breed. At Lord Rothschild's one made £136 10s. At the Duke of Marlborough's one made £126. At Mr. R. J. Pope's one made £115 10s.; and at Lady G. Greenall's one made £105. The top prices for two-year-old and yearling heifers were £63 and £57 15s., both realized at Lord Rothschild's sale.

The best prices for Ayrshires were bulls £40 and cows £24. The best prices for Dexter and Kerry cattle were bulls £25 5s. and cows £74 11s., both at Mr. Robertson's sale.

Sheep.—In connection with this section there is no question but that owing to the falling off in the export demand the supply of rams in all breeds was in excess of the requirements, and hence for other than tiptop ones the demand was poor. The highest and lowest prices realized at public sales were as follows: Yearling rams—Leicesters, from £12 10s. to £4 10s.; Cotswolds, £23 2s. to £3 3s.; Lincolns, £54 12s. to £22 12s. 6d.; Oxford Downs, £178 to £3 3s.; Shropshires, £420 to £3 3s.; Southdowns, £40 19s. to £3 3s.; Hampshire Downs, £37 16s. to £4 10s.; Suffolks, £36 15s. to £4 4s.; Wensleydales, £25 to £3; Border Leicesters, £122; Dorset Horns, £17 17s. to £3 13s. 6d.; Kent or Romney Marsh, £43 1s. to £3; Devon Longwools, £22 1s.; Black-faced Mountain, from £100.

The top prices made for ram lambs were as

follows: Leicesters, £6 10s.; Cotswolds, £12 12s.; Lincolns, £3 2s. 6d.; Oxford Downs, £42; Shropshires, £189; Hampshire Downs: letting for the season, £105; selling, £92 8s.; Suffolks, £63; Southdowns, £22 1s.; Dorset Horns, £13 13s.; Wensleydales, £15.

The top prices for yearling ewes were: Leicesters, £3 11s.; Cotswolds, £2 10s.; Lincolns, £6 6s.; Oxford Downs, £4 13s.; Shropshires, £26 5s.; Southdowns, £6 1s.; Hampshire Downs, £8 5s.; Suffolks, £8; Wensleydales, £4 10s.; Border Leicester ewes, £15 4s. 6d.; shearling ewes, £8 8s.; Dorset Horn, £5 5s. Shropshire ewe lambs made from £21, and Suffolk ewe lambs made from £5 2s. 6d.

Profit in Pork Production.

To the Editor "Farmer's Advocate":

I have just marketed my second batch of hogs. I had a very good idea what my first lot cost me, and the results seemed so satisfactory that I determined to keep a strict account of the feed consumed by my next. Thinking the results may be of interest to "Advocate" readers, I send them herewith:

My sow is a Berkshire and Chester White cross, of rather a thick type. She was bred to a pure-bred Yorkshire, and produced ten fine, healthy pigs. I had no roots last winter, so I fed her 1 pt. oat chop mixed in half pail steamed clover chaff three times per day. This kept her in excellent condition, at a cost of \$1.50 for the four months she was carrying her young, which were farrowed on April 12th. During the six weeks she was suckling the pigs she got 1½ gallons scalded oat chop three times per day. After the pigs were three weeks old they had access to a small trough containing sweet milk, to which, after a few days, I gradually added a little scalded shorts, so that by the time they were weaned they were feeding well. After weaning they got mixed barley and oat chop, scalded, with a very little buttermilk, and all the green clover they would eat. After haying they got green peas in place of clover. When they weighed about 100 lbs. each I tried feeding the meal dry and giving them drink separately, and found it very satisfactory. They were then getting a mixture of about three parts barley and two parts sprouted wheat, and during the last six weeks they got all the mangels they would eat as well. When sold, on Nov. 4th, they averaged 194 pounds, and brought me a net profit of \$6.09 per pig. The following is a detailed statement of the food consumed, etc.:

Service fee	\$ 1 00
Food of sow	1 50
Cost at birth	2 50
Six weeks' feed of sow	6 00
Cost when weaned	8 50
110 lbs. shorts	1 00
800 lbs. chop	8 00
Clover	1 00
Green peas	2 00
Cost of first ten cwt	20 50
2,750 lbs. chop	27 50
Chopping	1 50
70 bushels mangolds, at 5c	3 50
Total cost	\$53 00
To 1,940 lbs. live weight, at \$5.87½ per cwt	\$113 97
Total cost	53 00
Net gain	\$60 97
Cost per cwt	\$ 2 73½
Grey Co., Ont.	WM. WRENSHALL.

Address Label Important.

We desire every subscriber to note carefully the date on the address label on the paper in order to see that due credit has been given for remittance. If same is not correct, write us at once, giving full particulars as to amount of remittance, date of sending, and whether sent by registered letter, money order, or an ordinary letter. We do not hold ourselves responsible for moneys sent in the latter way. The date on your label serves as your receipt, showing the date up to which your subscription is paid.

Commended to the People.

Dear Sir,—Allow me to offer my congratulations on the superior number of your journal which you present to your readers for the Christmas of 1901. I have no hesitation in saying that it is a decided improvement on anything you have given us hitherto. It contains a variety of matter, both artistic and literary, which will be of great interest to your many readers. Such enterprise deserves recognition by all of our people, and I heartily wish you additional prosperity for the new year upon which you are entering.

Yours very truly,
JNO. DRYDEN,

Minister of Agriculture.

Toronto, Dec. 28th, 1901.

Self Feeder for Pigs.

In reply to the inquiry how to make the feeders mentioned in my article on the care of fall pigs, which appeared in the Nov. 1st issue of the "Advocate," I will endeavor, as briefly as possible, to describe how my feeders are made. My first one was nothing but a dry-goods box with an extra bottom put in, slanting so that the feed would run to one side when the supply became nearly exhausted. I also removed a board in the side at the bottom, in front of which I built a trough of hard maple, the length of the box. I then covered the opening in the side of the box with a hard maple board, which I made to slide up and down in a groove. I then fastened securely in front, and behind this board, two pieces, also of maple, at each end in which I put a row of gimlet holes, quartering across the pieces so there would be no danger of their splitting one into the other. These holes should not be more than a quarter to a half inch higher than the one below. I then put two holes in each end of the long board and cut out the space between, making a slot running lengthways of the board and of the same width as the size of the holes in the upright pieces. I then inserted into one of these holes, and through the slot, a five or six inch wire nail to hold the board at proper height to make the right opening. Any farmer will understand that if this opening should be too wide the pigs would work out more feed than they would eat, thus causing a waste of feed; also, that chop would require a wider crack than fine middlings. This feeder I used for some time, and it did splendidly for a test, but the box was not strong enough, so I built one in my feed alley where the pigs could get at nothing but the trough. I am using this one yet, but later I converted the partition between two pens into a feed box, with a trough at each side, to which I added a strip of iron about four inches wide on the outside of the board that regulates the feed supply. It is an advantage to bevel the bottom of this board, taking off the side next the chop for a distance of two or three inches up from the bottom, and the iron on the outside will keep the pigs from gnawing off the thin edge and thus making the opening too large. In this double-trough box the center of the bottom is raised to a sufficient height to let the feed slide each way to the troughs. The box may be made any width desirable. I have left a space three feet wide behind my feeder for a gate between the pens. Sometimes pigs seem to eat too much. For the first year or two, should they do this, I put out the nails at each end of the board, and shut it off when I think they are eating too much; but they soon get used to it, and the board can be left up all the time.

By putting the feeder at the partition between the pens, it leaves the front along the feed alley clear for the drinking trough, which should seldom, if ever, be dry. My feeders are made of maple flooring, all matched tight. Sometimes chop will not work down readily, especially if ground coarse. To overcome this difficulty, I took several pieces of wire a couple of feet long; the exact length does not matter. At one end I bent the wire so as to form an eye or lobe small enough to prevent the head of a nail or screw from passing through; then again near the middle of the wire I give it an easy bend with the hands, bringing both ends nearly together. I then fasten these wires on the slanting bottom of the feeder by putting a nail or screw through the eye which I have bent in one end of the wire, allowing the middle or round end of the wire to project through the crack and into the trough just far enough to allow the pigs to work them back and forth with their noses. In order to prevent their being rooked too far to one side, I drive a nail on each side, allowing the wire to be shoved about four or five inches. The working of the wires will work the feed through a much smaller crack than would otherwise be possible.

I use elevated nests in part of my pens, and with but few exceptions the pigs keep them dry and clean. I have room overhead for a couple of loads of straw, and over each nest I made a chute or box, which runs to the roof, with an opening on one side at the top. This allows me to mow the straw in tightly without danger of filling up the holes. I also use a part of the overhead space for soft corn which is not fit to crib. My pen is warm enough to keep out frost in any ordinary weather. My walls are made of 2x6 studs, sealed inside and sided outside with matched siding, the six-inch space being filled with sawdust well mixed with dry, air-slacked lime. I do not remember the proportion, but will say this, that the greater the percentage of lime, the less danger there will be of rats and mice making their home in it. I have seen many better pens than mine, but I have yet to see any man with a cleaner, more contented lot of pigs than mine, and they do not squeal themselves hoarse nor attempt to tear the pen down when I go in to look at them.

Norfolk Co., Ont.

J. I.

Smithfield Carcass Competitions.
LONDON, ENGLAND, 11TH DECEMBER, 1901.

Prize.	Exhibitor.	Breed.	STEERS UNDER TWO YEARS OF AGE.				Per cent.
			Weight on arrival.	Age in days.	Average daily increase.	Fasted live weight.	
1.	Col. Henry Platt, C. B.	Black Welsh	1,063	721	2.26	1,070	65.88
2.	J. Douglas Fletcher	Aberdeen-Angus, dam Hereford	1,366	721	1.97	1,070	65.24
3.	F. K. Salliard	Red Sussex	1,282	698	2.17	1,070	65.79
4.	H. G. Murray Stewart	Black Galloway	1,047	683	1.57	1,070	65.84
Average of the ten exhibits.							65.45
STEERS OVER TWO YEARS OF AGE.							
1.	His Majesty the King	Aberdeen-Angus	1,469	1,051	1.39	1,388	68.31
2.	G. Young of Cadboll	Aberdeen-Angus	1,397	unknown	1.39	1,388	64.69
3.	Sir Walter Gilbey, Bart.	Galloway	1,392	994	1.42	1,371	64.25
4.	Thomas Biggar & Sons	Galloway, dam Highlander	1,283	950	1.35	1,252	64.25
Average of the eight exhibits.							65.13
HEIFERS UNDER THREE YEARS OF AGE.							
1.	His Majesty the King	Aberdeen-Angus	1,372	986	1.44	1,348	65.04
2.	G. Young of Cadboll	Shorthorn	1,280	unknown	1.28	1,226	64.45
3.	The Duchess of Newcastle	Shorthorn, dam Kerry	1,324	1,034	1.28	1,324	64.65
4.	J. Douglas Fletcher	Aberdeen-Angus, dam Hereford	901	576	1.55	885	65.82
Average of the six exhibits.							64.52
In 1886 steers under two years old dressed							65.20
In 1900							65.25
In 1901							65.45

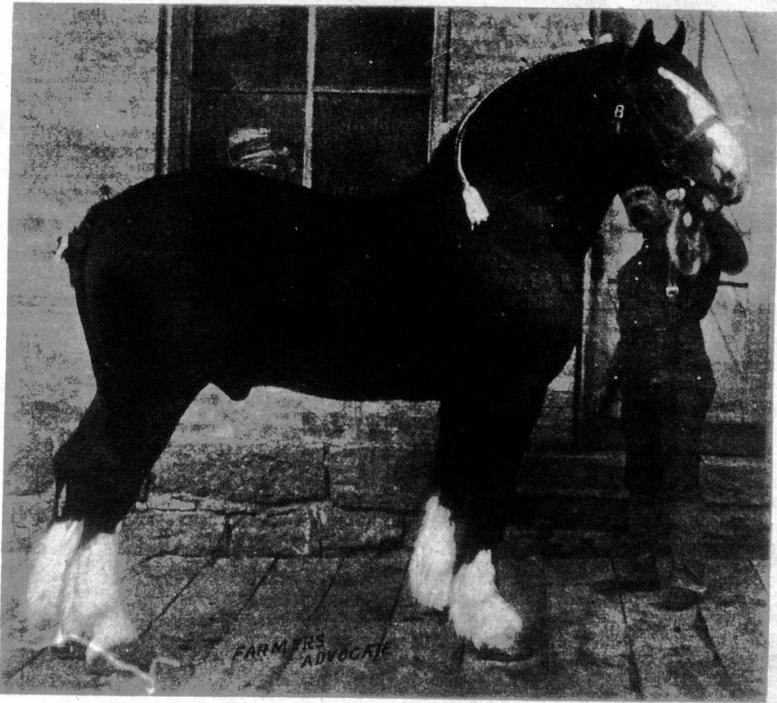
rino by having a longer and less yolky fleece and a fleshier and larger carcass. This difference is due to a change of environment, combined with careful selection. The fine wool of the Saxony is the product of special treatment and management for the production of wool of the character desired.

Existing English breeds owe much to the help of the earliest improved of English sheep, particularly the Leicester and Southdown. The Long-wool breeds have been helped by the Leicester. The chief benefit conferred has been that of giving early maturity and of improving the quality of the wool. Both the Lincoln and Cotswold probably owe to the Leicester a reduction of coarseness of bone and an improvement in the fleshiness and roundness of rib.

The Southdown has operated in a still wider sphere. The Hampshire, Shropshire, Suffolk, and indirectly the Oxford, are all indebted to it. It is a somewhat remarkable thing that the derived breeds have perhaps outstripped in popularity the original improving breed. This is perhaps due to the fact that the original perfections of form that have been secured in such hands as those of Bakewell and Ellman are higher than can be successfully maintained by the bulk of inexperienced breeders, and the product of the outcrossing of these breeds on local varieties have shown a very satisfactory sheep, and perhaps one that carries with it a ruggedness of constitution resulting from the infusion of new blood into a hardy primitive breed. The favor in which these derived or improved breeds stands has led to the greatest perfection in these breeds themselves, to such a degree that scarcely any perfection of form can be claimed to exist in one breed, either original or derived, that cannot be paralleled or claimed for any other. The best types of all the English breeds are good sheep, showing variations of fleece, form, habits and size that differentiate them and make each separately suited to a special class of circumstances and environment.

The old Norfolk sheep is the last class of local sheep that has risen to prominence among English breeds. It was formerly a heath sheep. It was originally a very black-faced, horned animal, with long legs, accented by a long face, narrow, flat body and light hams. This type has given way to a modern sheep, showing an approximation to the Southdown type, which in other words may be designated as an early-maturing type, and it now is brought closer to the ground and has a broader-set, fleshy body, and has attained greater weight.

Concurrently with the improvement of carcass has come an improvement in wool. Primitive black-faced sheep show a tendency to darkness of skin and wool. These defects are essentially to be counteracted by selection and breeding, and this matter has been assiduously attended to in modern English flocks. This along with the high mutton qualities of the breed, both as to form, quantity and quality, give the Suffolks a specific and important place among the English breeds. Breeders of Suffolks in the Old Land might deem a defence of their breed uncalled for, and might claim in certain flocks a steady improvement and development and a consistent pursuit of pure breeding over a period of seventy-five years. They can also point to the triumphs of the breed at Smithfield, the most distinguished battleground of the meat animals in the world. It is the case, however, that the adoption of the breed has not reached any widespread proportions on this side of the water. Recent years have been marked by a steady stream of importations of the Lincoln, Leicester, Cotswold, Oxford, Shropshire, Southdown, and Dorset, in different numbers suited to the tastes and relishes of fanciers on this side of the water. It is to be noted, too, that last year and this have brought in some fine types of Hampshires, the typical hurdle and fast-maturing breed of the live-stock farm of the world. It is in order to expect a more general introduction of the Suffolk by reason of their home reputation and the success that has attended the introduction of all the other prominent English breeds.

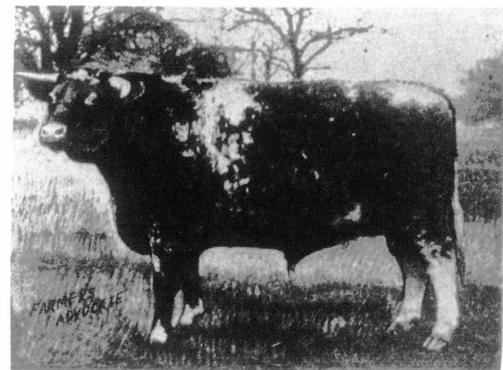


PRINCE WILLIAM JR. 8708.
Four-year-old Clydesdale stallion, champion over all ages, International Show, Chicago, 1901.
Weight, 2,050 pounds.
OWNED BY ALEX. GALBRAITH, JANESVILLE, WISCONSIN.

To Make the Drumsticks Tender.

One who has once drawn the tendons from a chicken or turkey, no matter how the fowl is to be cooked, will never again use one having the tough sinews unremoved. A marketman will draw a fowl's tendons for the asking, but it is a task every housewife ought to know how to perform herself. Buy a fowl with its legs left on, turn it on its breast and hold the back of each leg, one at a time, of course, in the left hand. With a sharp knife in the right hand cut very carefully just below the knee joint, through the skin, not any deeper. Inside will be found a group of tendons, there being eight in each leg, lying snug in a groove. They are attached to the foot, but through the dark meat they run away up into the leg, well into the upper joint. With a strong wire skewer lift each tendon separately, hold the chicken firmly, and pull. If the chicken is young and tender, each tendon will come out easily, and it can be pulled by a slight effort. If the bird has seen several Thanksgivings, all the muscle that can be put into the job will be required, but it is exactly such a bird that demands most the tendon-drawing process.

A turkey calls for more muscle, and "a long pull, a strong pull, and a pull all together." Cut the skin in the leg about half way between the knee joint and foot, and there will be discovered immediately the group of shining white tendons. Slip a strong skewer, or if the bird is quite elderly, the point of the sharpener that belongs to a carving set, under the bunch of tendons. Lift them carefully, then twist around two or three times, acquiring a firm hold. Give a strong pull and out they will come, together. Count them, and if there are not eight, go after the ones that are left. With these tough sinews removed, the dark meat is so delicious and tender that the drumsticks of one turkey will be found scarcely a large enough supply for the family table.—(Good Housekeeping.)



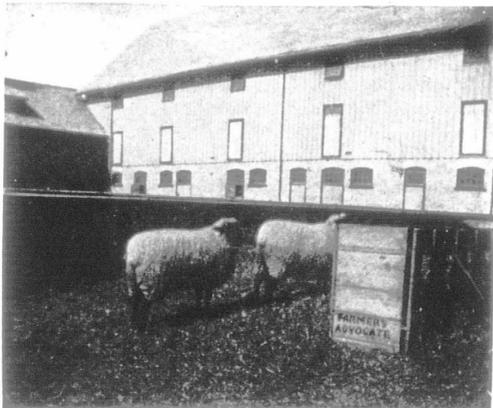
TWO-YEAR-OLD SHORTHORN STEER.
Exhibited at the Scottish National Show, 1901, by Lord Roseberry.

The Suffolk Sheep.

BY J. M'CAIG.

The question of the making of breeds is an interesting and instructive one to the shepherd. Methods vary considerably. In some cases the work is done by straight transformation by the help of another breed, or in some cases of more than one breed; in other cases it has been done by a change of environment combined with selection, and in others by crossing and selection combined. Selection, indeed, may be assumed to be always operating; for to anyone who is trying to institute or improve a breed, particularly by crossing, there must always be more or less chaos, or perhaps, rather, variation, in the individuals before him, out of which he seeks to bring order by the preserving and perpetuating of types of animals that more truly represent his ideal than do the animals rejected.

The Rambouillet differs quite distinctly from its Spanish progenitors, though it received no help to its transformation by the infusion of new blood. It is differentiated from the Spanish Me-



11-MONTHS-OLD SUFFOLK EWES AT THE O. A. C.

Smithfield Show Facts.**WEIGHTS AND DAILY GAINS.**

This the greatest and most important of the English fat-stock shows was held from the 9th to the 13th of last month. Its entries numbered as follows: Cattle, 273; sheep, 157; pens of pigs, 96; and for the carcass competitions, 24 head of cattle and 46 head of sheep.

The championship honors of the show in the cattle department, alive, was secured by Brunhilde, an Aberdeen-Angus heifer, property of the Earl of Strathmore, weighing 1,832 lbs. at two years and nine months. The champion honors for best animal under two years was secured by a grand young white Shorthorn steer weighing 1,478 lbs. at one year and eight months (and showing an average daily gain of 2.38 lbs.), the property of H. M. the King.

The Long-wool champion prize in the sheep section was secured by a pen of Cheviots, property of Mr. J. McDowall, and that for the Short-wools by one of the grandest pens of Southdown yearling wethers seen for many years at this show, from Col. McCalmont's flock.

In the carcass competition premier honors and champion in the cattle section was secured by an exhibit of H. M. the King's, a grand heifer of the Aberdeen-Angus breed, weighing, fasted, 1,848 lbs. at two years and eight months, dressing 889 lbs., or 65.94 per cent., and showing a daily gain from birth of 1.44 lbs. The carcass afterwards sold for the English record price of 16 shillings per eight pounds, net weight.

The Suffolk breed came out into clear prominence in the carcass sheep competitions, the champion prize going to the carcass of a wether by a Suffolk ram, out of a Black-faced mountain ewe.

The cattle section was a fair average of former years, the Shorthorns, the Devons and Herefords being hardly so good as in some previous years, whilst, on the other hand, the Sussex cattle have not been so good for many years.

We give the number of entries present in each class named, the average daily gain of the whole class, and the highest and lowest daily gain in the same:

CATTLE.

Herefords.—Steers under two years—Average, 2 lbs. 0.55 oz.; highest, 2 lbs. 1.76 oz.; lowest, 1 lb. 13.49 oz.; number present, seven. Steers over two and under three years—1 lb. 12.90 oz.; highest, 1 lb. 15.27 oz.; lowest, 1 lb. 11.30 oz.; number present, five. Heifers under three years—Average, 1 lb. 7.73 oz.; highest, 1 lb. 10.23 oz.; lowest, 1 lb. 4.97 oz.; number present, three.

Shorthorns.—Steers under two years—Average, 2 lbs. 2.61 oz.; highest, 2 lbs. 10.25 oz.; lowest, 1 lb. 14.24 oz.; number present, nine. Steers over two and under three years—Average, 1 lb. 13.51 oz.; highest, 1 lb. 15.31 oz.; lowest, 1 lb. 11.08 oz.; number present, six. Heifers under three years—1 lb. 15.96 oz.; highest, 2 lbs. 3.48 oz.; lowest, 1 lb. 9.00 oz.; number present, eight.

Aberdeen-Angus.—Steers under two years—Average, 2 lbs. 9.23 oz.; highest, 2 lbs. 5.22 oz.; lowest, 1 lb. 11.92 oz.; number present, nine. Steers over two and under three years—Average, 1 lb. 14.32 oz.; highest, 1 lb. 14.36 oz.; lowest, 1 lb. 14.27 oz.; number present, two. Heifers not exceeding three years—Average, 1 lb. 10.25 oz.; highest, 1 lb. 12.72 oz.; lowest, 1 lb. 6.00 oz.

Galloways.—Steers under two years—Average, 1 lb. 15.18 oz.; highest, 2 lbs. 3.25 oz.; lowest, 1 lb. 13.67 oz.; number present, five. Steers over two and under three years—Average, 1 lb. 9.47 oz.; highest, 1 lb. 12.43 oz.; lowest, 1 lb. 6.61 oz.; number present, eight. Heifers not exceeding three years—Average, 1 lb. 5.84 oz.; highest, 1 lb. 7.97 oz.; lowest, 1 lb. 4.71 oz.; number present, three.

Cross-bred.—Steers under two years—Average, 2 lbs. 3.38 oz.; highest, 2 lbs. 7.40 oz.; lowest, 1 lb. 14.26 oz.; number present, twelve. Steers over two and under three years—Average, 1 lb. 13.91 oz.; highest, 2 lbs. 1.81 oz.; lowest, 1 lb. 6.14 oz.; number present, twelve. Heifers under two years—Average, 1 lb. 15.10 oz.; highest, 2 lbs. 1.92 oz.; lowest, 1 lb. 12.79 oz.; number present, nine. Heifers over two and under three years—Average, 1 lb. 10.72 oz.; highest, 1 lb. 13.61 oz.; lowest, 1 lb. 5.17 oz.

SHEEP.

This department was throughout a good one. Mr. J. Pears' remarkable pens of Lincoln wether lambs and Col. McCalmont's pen of Southdown yearling wethers standing out above any other pens in the show. Each breed had two classes, one for three wether lambs and the other for three yearling wethers. We give the number of entries in each class, and the average daily gain of the same for each of the breeds named; also average weight in pounds of the first-prize pen of three lambs and yearlings:

Leicesters and Border Leicesters.—Lambs—Average, 9.75 oz.; number present, four; weight, 164. Wethers—Average, 6.79 oz.; number present, five; weight, 271 lbs.

Cotswolds.—Lambs—10.08 oz.; number present,

two; weight, 185 lbs. There were no yearlings entered.

Lincolns.—Lambs—11.81 oz.; three pens; weight, 236 lbs. Wethers—8.55 oz.; four pens; weight, 345 lbs.

Southdowns.—Lambs—8.09 oz.; seventeen pens; weight, 178 lbs. Wethers—4.84 oz.; ten pens; weight, 235 lbs.

Hampshire Downs.—Lambs—10.48 oz.; nine pens; weight, 226 lbs. Wethers—6.72 oz.; ten pens; weight, 308 lbs.

Suffolks.—Lambs—10.91 oz.; nine pens; weight, 218 lbs. Wethers—7.45 oz.; five pens; weight, 316 lbs.

Shropshires.—Lambs—9.24 oz.; five pens; weight, 165 lbs. Wethers, 6.26 oz.; four pens; weight, 267 lbs.

Oxford Downs.—Lambs—10.35 oz.; four pens; weight, 193 lbs. Wethers—6.31 oz.; two pens; weight, 283 lbs.

Dorset or any other pure Short-wooled.—Lambs—9.10 oz.; two pens; weight, 203 lbs. Wethers—5.89 oz.; three pens; weight, 278 lbs.

English Cross-breeds.—Lambs—10.56 oz.; eight pens; weight, 240 lbs. Wethers—7.34 oz.; five pens; weight, 308 lbs. Oxford-Hampshire cross in both classes.

SWINE.

The entry of swine was a small one in number, but good in quality, and is noticeable as being the first one at which the live weights were collected at this show. The following is the average daily gain of each class named, the number of entries present, the age in days and weight in pounds of first-prize pens:

Large Whites.—Two pigs under nine months—1 lb. 5.02 oz.; age, 267 days; weight, 332 lbs.; two pens. Above nine and under twelve months—1 lb. 8.17 oz.; four pens; age, 358 days; weight, 455 lbs.

Berkshires.—Two pigs under nine months—1 lb. 3.14 oz.; age, 270 days; weight, 336 lbs.; ten pens. Above nine and under twelve months—1 lb. 4.01 oz.; eight pens; age, 358 days; weight, 486 lbs.

Tamworth.—Two pigs under nine months—1 lb. 3.37 oz.; four pens; age, 247 days; weight, 364 lbs. Above nine and under twelve months—1 lb. 3.41 oz.; four pens; age, 247 days; weight, 499 lbs.

Single pigs, any white breed, under twelve months—Average of class, 1 lb. 4.29 oz.; eight pens; age, 358 days; weight, 503 lbs.—A. Hiscox, Yorkshire. Any black breed—Average, 1 lb. 0.62 oz.; two pens; age, 359 days; weight, 370 lbs. Berkshires, under 12 months—Average, 1 lb. 3.25 oz.; age, 318 days; weight, 442 lbs.—N. Benjamin. Tamworth—Average, 1 lb. 4.92 oz.; five pens; age, 357 days; weight, 478 lbs.—R. Ibbotson.

Canada Wools.

What is the remedy for the continued low price of wools and the indifferent demand for them by the merchants and wool dealers. Since my previous letter the price for Canada combing in the States has dropped 1½c. The continued depression of our worsted factories has kept them out of the purchasing market, so that the demand to-day is for "Down" wools, and it may surprise the wool-growers to know that the demand is very much in excess of the supply. The result is that foreign cross-bred and English Downs are being imported in considerable quantities.

The sooner our farmers know that coarse wools are not wanted, the better. There is little enquiry for this type of wool from any source. They are only fitted for carpet warp, and for that there is limited demand. For blankets the trade requires a softer wool to give the fabric a big, bulky feel. These long, coarse wools make a heavy, cold blanket. As a proof of this, the manufacturers endeavor to secure the softer wools of Central Canada, Quebec and the Lower Provinces, in preference to our Ontario wools.

Now, what is the use of sheep-raisers persisting in retaining breeds of sheep the wools of which are not wanted? Would it not be better to try a change? There is an unlimited demand at present, and it looks as if the demand will continue for "clothing" wools. Why not get the large-bodied Down sheep? The wool is more valuable. To-day clothing wool commands from 3c. to 4c. per pound more than combing wools. A bright, silvery Leicester with a fine staple is always marketable, but the coarse, dull Leicester is no more wanted than is the straight-haired Lincoln—a wool without a redeeming feature for the Canadian market. The same remarks also apply to the coarse, kinky Cotswold.

It is not my desire to advocate any particular breed of sheep, but it is said in reference to the Dorset Horns that they are "dog-proof," and this is an important consideration; while the sheep is well bodied and hardy. The wool yield compares favorably with the Downs and its nature is not "brashy" and tender. In the British market to-day the Dorset lamb wool is 2c. to 3c. above any other home-grown wool. The beauty of

this wool consists in its glistening, silvery nature, being peculiarly adapted for the better grades of underwear.

Another satisfactory breed is the "Cheviot." Thousands of pounds of this wool is being imported to fill the demand for a soft Canada "extra" pulled which cannot be obtained. Where is the sense in sheep-raisers persisting in maintaining coarse, carpet-wool sheep when every wool dealer in the country could tell them that these wools mixed among other and better wools in the local buyers' hands degrades the pile. Again, these coarse-wooled sheep are more apt to have cotted fleeces than are the Down sheep. It is a safe assertion to make, that every pound of wool now held by our merchants and wool dealers would have been marketed ere this, at good figures, had those wools been clothing instead of combing, while the importation of substitutes would naturally be that much less.

Consider this carefully, and in the next letter it may be possible to suggest some better method of marketing the wool and some suggestions about conditioning and grading the wool so that the grower can get the full value, which he at present is not getting. "PITREAVIE."

The Bacon Pig of the Future.**FROM THE COMMERCIAL POINT OF VIEW.**

Mr. John M. Harris, Calne, Wiltshire, says: Speaking as a bacon-curer who personally sees weekly, both alive and dead, some thousands of pigs from nearly all the West of England counties, I am sure it is the most important to breeders, feeders and curers that pigs be well bred, and by this I do not mean the pigs one often sees at the agricultural shows, winning prizes, which are masses of fat, with heavy shoulders, necks and jowls.

The most profitable style of hog to produce, both for the consumer and for the producer, is one with a light jowl, small head, narrow and light shoulders, long and deep in the sides, thick flank, square hind quarters, tail well set up, fine hair, and made to weigh from 140 lbs. to 160 lbs. before it is seven months old, or 4 scores at five months old, if required for pork.

The pig is the only animal for which the feeder gets paid for the whole of the carcass, as the head, feet and skin are weighed; whereas, in the bullock and sheep, these parts are not weighed; this is an advantage of nearly 20 per cent. in favor of the pig.

A farmer can feed his pigs entirely on the produce of his farm without going to the expense of any artificial and costly foods; tail wheat, barley, oats, peas, beans, potatoes, of which top price cannot be made, can, by being ground into meal, be turned to good profit, especially if mixed with separated milk, whey or buttermilk, which is otherwise of little value; and it is a strange fact, though nevertheless a true one, that pork is the only meat of the same or greater value than it was twenty or thirty years ago. The influence of food upon the quality of meat produced by different foods is most striking; pigs fed on maize, rice, linseed, kitchen refuse from hotels, workhouses and other large establishments, also butchers' offals, making a very soft, bad-quality meat, whilst barley, wheat, beans, peas, with skim milk, whey or buttermilk, will make the very best quality. On the proper feeding and management, then, depends whether pig-keeping pays or not. The frequent complaints heard of pig-keeping not paying are attributable to this, for while one farmer never keeps a pig, "because it does not pay," his neighbor fatts some hundreds in the course of a year, to the considerable advantage both of his farm and his pocket.

The value of manure from fattening pigs is considerable; I have, with many practical men, seen the difference in the crops and produce of a farm where pigs have for some years been fed and those of other farms where the milk has all been sold.

The great opponent of the British dairy farmer, viz., the Dane, when in 1887 he was prohibited from sending his live pigs to Germany, as he had done for years, started bacon-curing factories, and since then, by improving his breed of pig, he has, to a large extent, captured the English bacon trade, besides enriching himself and his country. The Canadian bacon now coming in such enormous quantities to England is, and will be, a keen competitor with Denmark, as the Canadian and Danish farmers are intelligent enough to learn what is required and then to produce it!

The English and Irish farmers have, in many cases, kept to the same breed as their father and grandfather before them, doubtless thinking that what was good enough for them will do now, with the result that through breeding in and in, and from all shapes and forms, the English and Irish pig has become the thin-bellied, heavy-shouldered wretch, alike unprofitable to the breeder, the curer, and the merchant.



QUEEN ANNIE =31319=.
Shorthorn cow in auction sale of herd of D. Baigent, Thamesford, Ont., February, 1902.
(See advertisement, page 68.)

What Pure Air Means to Live Stock.

Among the principal organs of the animal body are the lungs, in which changes go on unceasingly during the healthy life of the animal. The changes are: 1st, the taking of oxygen (the life-giving gas) into the blood; 2nd, the throwing off of the poisonous material (carbon dioxide gas) of breathing air; 3rd, the formation of heat, the result of the exchange.

The lungs consist of a large number of small air cells, over which are distributed a large number of very fine blood vessels. Some of these little blood-carrying tubes bring impure blood to the lungs, where is exchanged carbon dioxide, ammonia and water for oxygen, as a result of which the heat is generated, thus warming the blood, which also becomes a brighter red in color. The purified blood is then taken to the heart, from where it is pumped to all parts of the body, where it assists in nourishing and building up the various tissues. Oxygen is only to be got from pure fresh air, hence it is at once evident that the purification of the blood, the growth and warmth depends on its being able to get an ample supply of oxygen. It is impossible to get the best results from live stock which are starving for fresh air. Pure air with its great complement—light—means economy of feed and the absence of germ diseases, notably tuberculosis. As that essential, pure air, cannot be freely supplied in poorly-ventilated stables, we shall endeavor to show, in a series of articles on ventilation, how live stock may be ensured a supply of pure air, which ranks equally high as a nutrient with food and water.

FARM.

Farmers and Their Fire Insurance.

Every prudent farmer, as well as every other prudent person, insures such of his property as fire may probably destroy, and no argument is required to prove the wisdom of fire insurance or the folly of being without it.

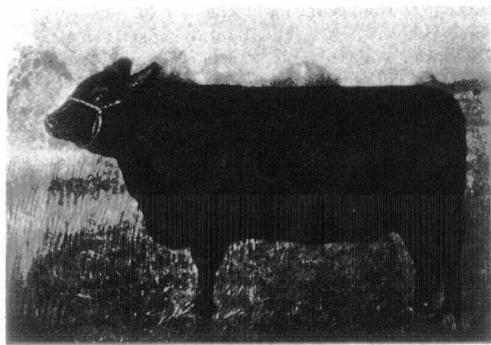
The first regular fire-insurance office in Great Britain was opened in London, England, in 1681, fifteen years after the great fire of London. The first Canadian fire-insurance office was opened in 1804. One hundred years later we have a large number of Canadian fire-insurance companies and, in addition, many Canadian branches of British and American companies.

Fire insurance is a contract, or bargain, between the insurance company on the one hand and the property owner on the other, under which the property owner agrees to pay a certain sum of money to the company, in return for which the company agrees to pay to the property owner such loss, or damage, not exceeding the amount of the insurance, as fire may cause to the insured property during the term of agreement. The bargain is, however, usually, or always, a conditional one, and it is provided in the contract that the company shall not be liable for payment unless that the insured shall comply with and fulfill the reasonable terms or conditions of the bargain, which bargain is usually set forth in a printed and written document called the policy. This policy, though not generally so treated or regarded, is a paper of very considerable importance, and should be very carefully read by the property owner. Hundreds, or thousands, of dollars may be lost by a failure to observe the conditions of the policy, and how can a man be sure that he is observing the conditions of a policy that he has never taken the trouble to read? And how can a man blame a company if they refuse to pay his loss which they had only agreed to pay upon certain conditions, which he has not complied with?

Not only should a man read his policy, but he

should not less carefully read and understand the application that he gives to the insurance agent, for the application is a part of the contract, whether it be made out by the property owner or by the agent, for if the insurance agent fill up the application form, and he usually does, he is, in so doing, deemed to be the agent of the owner and not of the company. The facts should all be truthfully and correctly represented in the application, for any misrepresentation or error therein may make the contract void.

We have, doing business in Canada, "stock" fire insurance companies and "mutual" fire insurance companies. A stock company is formed by a number of persons, called the stockholders, who contribute in cash to the capital of the company, and they then solicit business as any other stock company, and are entitled to divide among themselves such profits as there may be, and are liable, up to the amount of their subscriptions to the stock or capital, for the company's losses. Usually such companies do not divide and pay out all the profits, but set aside a percentage to form a reserve for the further security of the policy-holders. A person insuring in a stock company pays a fixed cash premium, signs no note, and, no matter how great the fire losses, has no further liability.



BRUNHILDE.
Two-year-old Aberdeen-Angus heifer. Grand champion of the Birmingham and Smithfield Shows, 1901.
BRED AND OWNED BY LORD STRATHMORE.

A mutual company is formed by a number of persons associating and agreeing to mutually contribute to the payment of each other's fire losses according to rules and regulations as included and set forth in the charter, rules, by-laws and policies of the company and the laws respecting fire insurance in general and mutual companies in particular. There are no stockholders in a mutual company, but every person insured therein is a member of the company, and if the company's losses are unusually small the members receive their profits by obtaining their insurance at a cost less than the ordinary rates of the premium; while if the losses are unusually heavy, each member must contribute an extra sum, thereby increasing the cost of his insurance. In other words, he is a partner in an insurance business, and shares profits and losses as in any other partnership, save that each member's liability is limited to the amount of his premium note. To insure the fair and proper contribution of the members to the payment of the losses and running expenses of the company, each member is required to give, with his application, a premium note or undertaking, payable to the company, and the amount of the note in each instance is based upon the nature, location and construction of the property insured and the amount for which insured. Collections are made by pro-rata assessments on the notes. The premium notes are usually taken for larger sums than the company expects, with ordinary losses, to collect from the policy-holders; nevertheless, the signer of a premium note is liable for the full amount of the note if the company's losses and expenses

demand it, and, this being so, a mutual company's premium notes are a valuable and important part of its capital, as is the unpaid subscribed stock in a stock company. And the well-conducted mutual companies, as well as the stock companies, provide for and create a cash reserve which gives the policy-holders increased security and enables the company to make its assessment more regular and uniform, setting aside a fund in times of light losses to help to meet its payments when losses are heavier. A mutual company is permitted by law to make a yearly assessment, not more than ten per cent. of the premium notes, to form a reserve fund. A member of a mutual company is liable only for losses occurring during the term of his policy. A member of such a company may be sued upon his premium note, if properly written, in the Division Court for the division in which the head office of the company is located, no matter how far that may be from his home.

Fire insurance, and particularly on farm property, has not been very profitable in Canada for the past number of years, and a great deal of the farm insurance in Ontario is now placed in local or township mutuals, which companies certainly have advantages over the larger companies doing business over wider areas. The local companies, having their directors located in different parts of the comparatively small fields in which they work, have a personal knowledge of nearly every applicant for insurance, and are thus enabled to shut out men of bad reputation or of bad financial standing, or who, because of excessive drinking or other reason, are known to be grossly careless, and thus many bad risks and losses may be avoided. On the other hand, the larger companies have the advantage of the services of officers who have been educated in and have knowledge of the business of insurance, and in insurance, as in everything else, good and skilled management counts for much.

Too frequently the local companies, in their anxiety to keep down rates, fail to provide for any reserve fund, and when the years of heavy losses come, as they do come to all companies, heavy assessments must be made and a great many of the members desert the company to insure elsewhere, and thus the company is weakened and, it may be, forced into liquidation. And in other ways there is sometimes an inclination upon the part of the management to mistake niggardliness for economy; and perhaps to cut down a few dollars in the payment of a loss, a company may lose a member and injure very much its reputation, although no company can satisfy every one in this respect. It will pay a township company to secure the most efficient possible secretary, and when they have a good man, not to lose him for the sake of a few dollars of salary. The experience he will gather from year to year will be profitable to his employers.

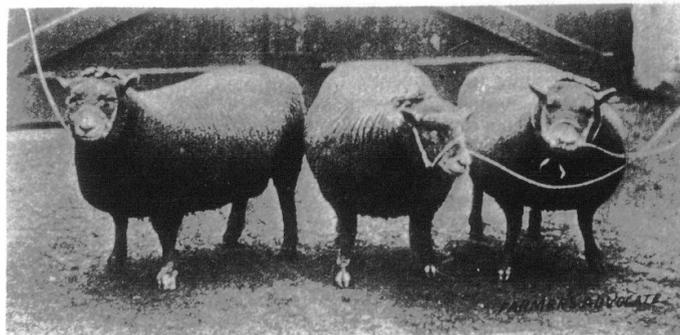
Do not always run after the cheapest insurance, for the cheapest is not always the best, and that which at first appears very cheap often proves to be very dear; but always insure; be careful to notify the company of any change in the ownership, occupation or construction of the premises, or of any change in the mortgage; and pay your premiums promptly and in good time, for an "absent-minded beggar" who deserts and generally gets little sympathy is the man who didn't insure and passes a subscription list when a fire comes his way.
Grey Co., Ont. H. H. MILLER.

Delays are Dangerous.

The address label on your paper will show if your renewal subscription for another year has been properly credited. Possibly you have neglected sending in your renewal. If so, delay no longer. Kindly forward the amount to-day.

First-class Knife.

The premium knife came to hand all right. I think it a first-class farmer's knife—strong and durable, and at the same time not clumsy.
Ontario Co., Ont. WM. SHIER.



SOUTHDOWN YEARLING WETHERS.
Champion pen of Shortwools, Smithfield Show, 1901.
PROPERTY OF COL. M'CALMONT, M. P.

Can the Farmers Combine?

The success of co-operative dairying in Canada, the Farmers' Binder Twine Factory at Brantford, Ont., and the progress now being made by several pork-packing establishments, the stock of which is mainly held by farmers, has caused many to look forward to the time when a much larger proportion of the products of the farm might be advantageously disposed of in that way.

Fifty farmers near the town of Solomon, in Central Kansas, embracing men of all political parties, last summer formed a co-operative grain-buying company. Their number included 90 per cent. of the wheat raisers of that section, some producing as much as 20,000 bushels and most of them having at least 5,000 bushels as the season's yield. Their investigations showed that the local buyers were paying 14 cents a bushel less than the Kansas City market, while 8 cents margin would meet the expenses. Their company had but \$2,500 capital; each member had but one vote; the officers elected included a banker, a former member of the legislature, and, as manager, a practical grain buyer and miller. They bought a small elevator, instructed the manager to pay within 8 cents of the market, this margin meeting the transportation charges, and began business. As was to be expected, the rival buyers sought to take away the business by paying more than the farmers' company, and did so for several weeks. Here was where the farmers met the situation. Under their agreement whenever more was paid elsewhere the members were instructed to sell in that market, but for every bushel sold thus one cent was paid to the co-operative company. As a result the farmers' elevator stood still, but the treasury was kept full and the members gained six to seven cents a bushel on their wheat. One day a railroad blockaded their elevator with coal cars. They made no complaint, but transferred their shipments to another road. The cars were soon moved and since then plenty of transportation has been furnished. As the rival buyers ceased high figures the elevator began business, and during the summer and early fall has purchased 80 per cent. of the wheat marketed at that point. The profits have been enough to pay dividends amounting to about fifty per cent. on the original investment of the members. The success of the plan has resulted in the organization of many other similar companies.

The plan of these farmers, observes the New York Independent, is nothing more than co-operative bargaining, and differs from the usual co-operative effort of farmers in that it is managed by experienced business men. The same collective impulse that has been the basis of manufacturing combinations or "trusts" is here applied to the farmers' affairs and furnishes an example of what can be accomplished when there is at the bottom, not politics or revenge, but business. The vagaries of some radical political methods and advice in the West in past years have given false impressions of possibilities in farmers' combinations. Hundreds of Grange stores have met with failure because they were political in their nature rather than businesslike. Farmers have sought to limit the product of fields by agreement or have attempted to obey the injunctions of "hold your wheat" circulars in a haphazard, formless manner, resulting in nothing practical or effective. It has usually been found in the end that they were being used by speculators for personal gain.

Such enterprises, to be successful, must not be paternal or sectional, but practical and wholly businesslike—and those who embark must bear in mind that they assume the additional cares and risks incident to trade and commerce.

Co-partnership with Nature.

Do farmers know that no other legitimate business in the world presents greater opportunities for profit than theirs? Take the possibilities of a kernel of corn for illustration. Planted on a piece of earth 2 by 2 by 1 feet, and it will produce two ears, each containing 400 kernels, or an increase of 800 per cent. in four months time. Where is the trade or business in any city which will return half so great a profit per annum on an investment? The growth of vegetation pays Nature—she grows rich. And if a field of corn, increasing at this marvelous rate, does not pay its owner, there surely must be something the matter with the man. It is not the plant or the field, or the business which is at fault. For ever and ever, so long as the world holds men, there will be a demand for food, and every particle of it must come out of the earth or the sea. And every ounce of food is, first of all, a plant. For ever and ever, then, will there be a demand for plants. The growing of food plants can never cease to be profitable if the right man and correct management are at the helm.

Keeping Our Fields Under Crop.

The breaking-up of the soil constituents into available plant-food is at its maximum in land under tillage, and the more extensive the cultivation, usually, the more active are the chemical agencies at work providing for plant nourishment. Proper and sufficient cultivation should therefore be the farmer's first care, but it is equally important that the food thus prepared should be retained to the benefit of the plant, and means adopted to prevent its removal in any other way than through the channel of vegetation. The soil must, of necessity, always be the feeding ground of the plant and the direct source of plant nourishment. The ease, however, with which this food material is removed from the soil by leaching, surface-washing, etc., renders it very important that it should, as far as possible, be otherwise stored until immediately required by the plant, and that the plant should be present to utilize it as fast as it is made available. The decadence of the bare fallow, in Ontario farm practice at least, is an indication that this fact is being recognized. It was once thought necessary by the best farmers to rest the land for a season and renew its productiveness by extensive cultivation, and the crop yield of the subsequent season seemed to warrant such action. The treatment given the land opened it up to influences whereby the inert food was reduced to an available form, and hence its immediate productiveness and apparent gain in fertility. This same treatment, however, made the soil more subject to the forces by which soluble plant-food is so easily washed out of the soil, and during the long period in which there could be no retention by vegetable growth a great deal of valuable material had gone down the streams. The soil thus, rather than becoming richer, had actually become poorer in the total food constituents available and unavailable. By continuous cropping this loss would have been to a great extent prevented, for the growing crop and the one properly housed are not affected by the leaching and washing agencies, and they are both ready when required to contribute, either by green-manuring or through the agency of farm stock, to the food supply of subsequent crops. The necessity of keeping something growing on our fields continuously being thus apparent, we can not only dispense profitably with the bare fallows, but should seek, as far as possible, to extend the growing period every year. Early-maturing crops may be immediately followed by other crops sown for fall pasture, for plowing under, or, in the case of some biennials, for a crop the succeeding year. The crops are various that may be utilized in this continuity of vegetation. The clovers, rape, buckwheat, and the winter grains, all have a place, and some of them can always be adapted to most farm conditions. This continuous cropping may appear to interfere somewhat with the amount of cultivation we think desirable. We may be satisfied, however, to let vegetation itself do a great deal of this work for us. In this connection the value of alfalfa and the deep-rooted clovers cannot be overestimated, for in addition to their now well-known function, along with all other legumes, of utilizing the free nitrogen of the air, they possess the faculty of reaching down in the opposite direction and performing work that no implement of tillage can do so effectually. A great deal of food material that has leached through the surface soil, beyond the limits of ordinary vegetation, is arrested by those roots, and this, along with new material acquired at those depths, is brought to the surface. All vegetation, however, possesses a value as a substitute for cultivation. The decay of the roots renders the soil more porous and susceptible to atmospheric influences, and the texture generally of the soil is improved—the same results as effected by tillage. But 20th century farming admits of more cultivation, along with contemporary vegetation, than heretofore. Deep cultivation, unless in exceptional cases, is not thought so necessary as formerly, and surface cultivation is now pronounced possible under conditions in which it would once be deemed ruinous to vegetation. The modern "weeder," with its manifold functions as weeder, harrow, and mulcher, may prolong the season of cultivation even in our cereal crops, and the increase in the corn and root acreage generally makes possible on a large part of our farm a whole season of cultivation along with plant growth.

Different conditions, of course, will warrant a difference in practice, but we may safely say that there are few farms on which the period of growth may not be profitably extended without trespassing on the time for essential tillage operations.

Ontario Co., Ont.

J. W. WIDDIFIELD.

The Feeding of Silage.

Silage may be fed with advantage to all classes of farm animals, milch cows, steers, horses, sheep, swine, and even poultry. It should not be fed as an exclusive coarse feed, but always in connection with some dry roughage. The nearer maturity the corn is when cut, the more silage may be safely fed at a time, but it is always well to avoid feeding it excessively.

The silo should always be emptied from the top in horizontal layers, and the surface kept level, so as to expose as little as possible to the air. It should be fed sufficiently rapidly to avoid spoiling of the silage. In ordinary winter weather, at least a couple of inch layers should be fed off daily.

Silage is, above all, a cow feed. As with other farm animals, cows fed silage should receive other roughage in the shape of hay, straw, etc. One good combination in which corn silage may be fed is, silage 30 lbs., turnips 25 lbs., clover hay 12 lbs. and oat chop 8 lbs. per day to each cow. Many other combinations may also be used with good results, but it is not well to feed more than 40 lbs. of silage to each cow per day. Silage may be given in one or two feeds daily, and, in case of cows in milk, always after milking, as the peculiar silage odor is apt to reappear in the milk when fed just before milking.

Forty or fifty pounds of silage per day, along with turnips and roughage in the form of clover hay, cornstalks, etc., makes excellent feed for fattening steers. If the silage is made from immature corn, care must be taken not to feed too large quantities on the start, so as to avoid producing scouring. Young stock may be fed in proportion, with the same precaution as given for steers.

When fed in moderate quantities, not exceeding 20 lbs. a day, silage is a good food for horses. They should be fed only a little at first, and the quantity gradually increased according as the animals become accustomed to the food. A good way to feed silage to horses is to mix it with cut oat sheaves or cut clover hay and straw mixed, two-thirds cut feed and one-third silage.

Silage may also be fed with advantage to both sheep and swine, but only in moderate quantities. Sheep may be fed a couple of pounds each per day, but not to exceed five or six pounds per head. In feeding silage to hogs, care should be taken to feed only very little, a pound or so, at the start, mixing it with corn meal, shorts, or other concentrated feeds. Hogs for the market may be fed from three to eight pounds per head per day.

Clover and corn ensilage is looked upon with great favor among poultry-raisers. A good cheap way to prepare silage for poultry is to fill barrels with equal parts of second-crop clover and sweet corn, cut $\frac{3}{4}$ inches in length, and a small amount of pulverized charcoal. The barrels should be packed as full as possible, and the heads put in, which can easily be done by the use of a common jack-screw. The barrels should then be covered with horse manure for about a month, and then put away for winter, by covering them with cut straw or hay. Feed one pound of silage to five hens per day, mixing it with equal part of potatoes, oat chop and small wheat, and boiling it. Feed when warm and in the morning.

Perth Co., Ont.

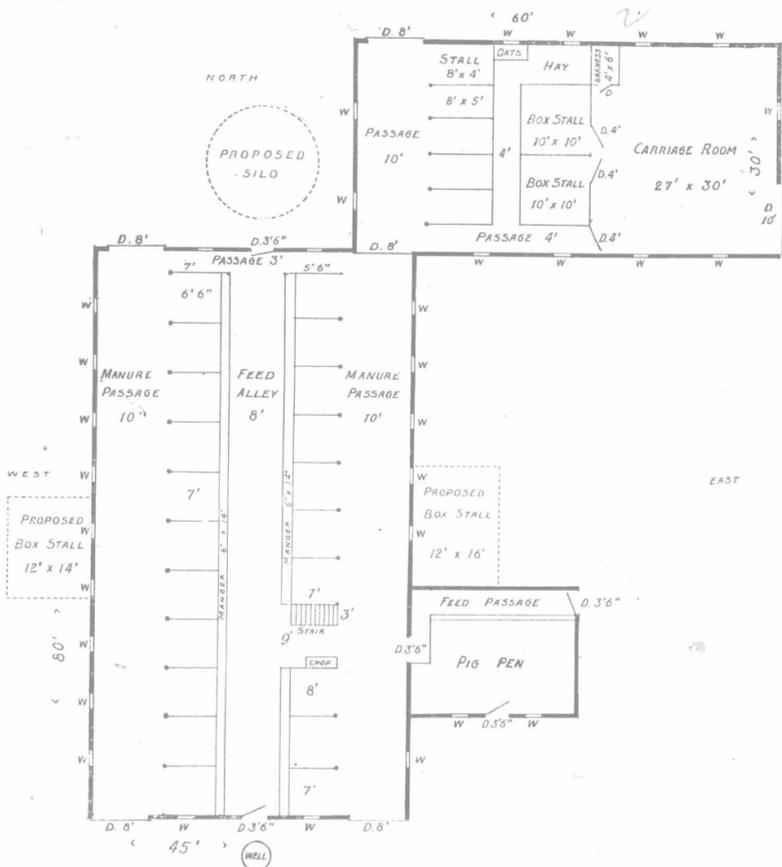
C. A. SHIER.

Cutting Corn for Ensilage.

Comparing notes with my brother farmers during the past few weeks, I find one of the topics of complaint among those having silos was cutting of corn by the corn harvester, which is charged for by the acre, no matter what distance apart the rows may be in the field. The distance varies from twenty-six inches in one case to forty-four inches in another. We will compare these distances in a field of forty rods (tillable ground). In the narrow space there would be thirty rows, with a little overplus, but call it the thirty to the acre; in the wider space there would be eighteen rows to the acre. If cutting the thirty rows of corn is worth one dollar, then the cutting of the eighteen rows should be worth only sixty cents; or if the eighteen rows' cutting is worth one dollar, then the cutting of the thirty rows per acre is worth one dollar and sixty-seven cents. While it may be admitted that the driving at the ends of the field would entail more doing if cut by the row, yet the inequality of charge would not be so great as at present. These are figures from my neighbors. How is this work done and charges paid for generally throughout the Provinces? What is the fairest, best, and the general way of having the corn harvested in the different sections of the ensilage-corn neighborhoods? Has cutting by the hour or mile been found to have been a satisfactory mode of harvesting? Would very much like to hear from your readers.

York Co., Ont.

N. R. G.



BASEMENT PLAN OF MR. J. P. BEATTIE'S CATTLE AND HORSE BARN, MIDDLESEX CO., ONT.
 Cattle barn, 45 x 80 ft.; horse barn, 30 x 60 ft.; hogpen, 18 x 24 ft.; windows, 2 x 3 ft.—8 lights;
 manger post to edge of manure gutter, 7 ft.; V-shaped water trough, 2 ft. above alley floor;
 1 ft. manger board next cattle—open next alley; ceiling of stable, 8 ft. 8 in. high;
 manure gutter drop, 6 in.; sloping in from back, 20 in.; from manger to
 drop, 2 in. fall on floor; from wall to gutter, 1 in. fall.

Snow as a Fertilizer.

Observant farmers may have noticed that after a winter in which the snowfall has been heavy and has lain well on the fields the crops the following summer have been unusually heavy. Farmers should know the reason for this. Snow, of course, is frozen rain, and chemical analysis has shown that it is heavily charged with ammonia, which is composed of nitrogen and hydrogen (NH3) and is a very valuable fertilizer. A French chemist, curious to know how much matter rain brought down on a given area of land, found that in the neighborhood of Caen a hectare of land (2.47 acres) received annually from the atmosphere by rain:

	Kilogrammes.
Chloride of sodium (salt)	37.5
Chloride of potassium	8.2
Chloride of magnesium	2.5
Chloride of calcium	1.8
Sulphate of soda (Glauber salts)	8.4
Sulphate of potash (Kainite)	8.0
Sulphate of lime (Gypsum)	6.2
Sulphate of magnesia (Kieserite)	5.9

*Kainite is really a sulphate of potassium, sulphate of magnesium and chloride of magnesium.

Besides, there were ammonia and organic substances, nearly all of which are valuable fertilizers.

This being the case, would it not be wise to plan to retain as much snow as possible where fertility is needed; for instance, on dry knolls or ridges, from which the snow is liable to be blown by the winds or early melted by the sun. Straw, coarse manure, brush, etc., may be spread on such places to hold the snow from drifting away. Sand or ashes mixed with the snow will help to hold it. Who has not noticed that where snow banks have lain by fences the weeds and the grass grows luxuriantly when spring opens. The ground has been fertilized by the snow, which largely accounts for the condition. This may appear to be a simple suggestion, but it will cost little to make the experiment and it may be well worth trying, at least on a limited scale. We have seen remarkable results from top-dressing with straw barnyard manure a hard, dry knoll exposed to the north winds, and generally bare of snow in consequence, the crops after such dressing being heavy for several years after.

Bible, Knife, Paper—All Good.

I received the premium knife a few days ago, and I must say I am highly pleased with it, as it always holds a good edge, the nickel handle makes it strong and durable and not bulky as a wooden handle would necessarily be in a knife of that size. Your paper is giving good satisfaction. The Bible you sent me last year for two subscribers was worth more than the money sent for both.
 COLIN McINTYRE.
 Bruce Co., Ont.

Large Cattle and Horse Barns.

The accompanying diagrams show the arrangement of Mr. J. P. Beattie's large barn, completed last season, to be used mainly for fattening export cattle. The smaller barn to the rear is for horses and vehicles. On the west side of the cattle barn are eleven double stalls, seven feet from manger post to edge of gutter-drop. The first four stalls from the north are 6½ ft. wide, the remainder 7 ft. There is no back to manger next feed alley, there being an open space between bottom of V-shaped water trough (made of 2-in. plank) and feed-alley floor, through which hay and straw are fed to cattle, grain (or silage) being fed over the trough. On the east side of feed alley, between stairway and north end, our engravers have shown one stall too many. This row of stalls (7 feet wide each) are 1½ ft. shorter (5½ ft.) at the north end, in order to suit the smaller young cattle. At south end they are 7 feet long. The three stalls south of the chop box are 8 ft. wide each, for large milk cows. Next season box stalls for calves, etc., are to be placed under the approaches on opposite sides of the stable, and a door through the wall in each case will take the place of one of the windows. One of these stalls may be used for storing roots. The manure passages are wide enough to drive a team and sleigh or wagon through to remove the droppings. Many otherwise fine barns are defective through having manure passages too narrow. At the cattle's heels the manure gutter drops six inches, sloping gradually outward 20 inches toward the passage, with a fall of one inch from wall to gutter. The stable, as will be seen, is well lighted and is roomy. Walls, floors and passages of cattle barn throughout are of cement concrete, and walls of pig house and horse stable of large white brick. The horse stable is all cement floor, except carriage room, which is clay. Horse stalls are plank floor over the cement. There is a window, not shown on plan, just south of door at east side of pig house.

Tanning Hides for Robes and Mats.

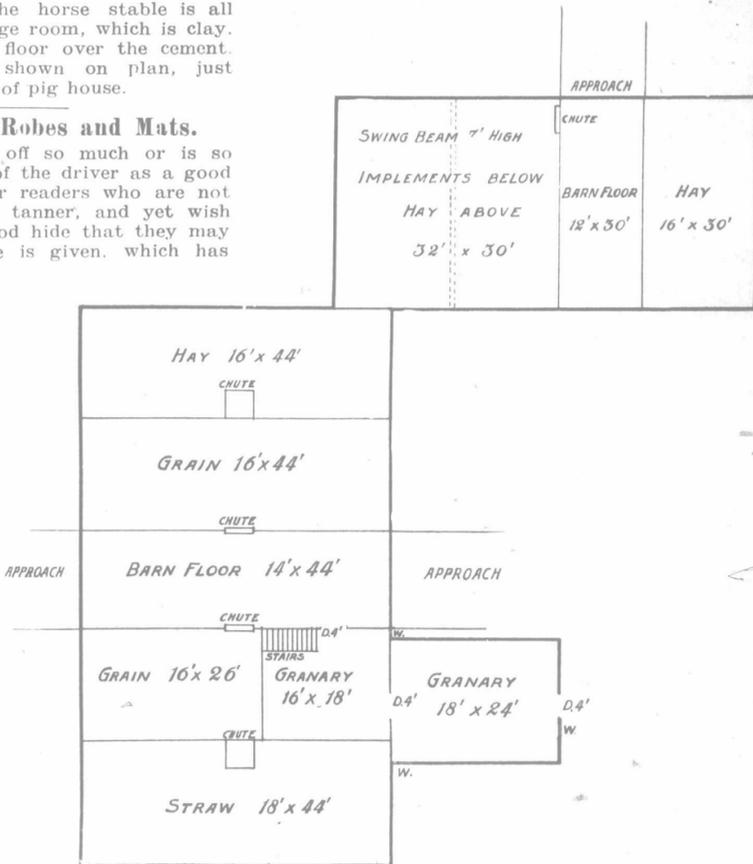
Nothing sets a cutter off so much or is so conducive to the comfort of the driver as a good robe, and for those of our readers who are not convenient to a first-class tanner, and yet wish to make into a robe a good hide that they may have, the following recipe is given, which has been used in a large tannery for many years, in tanning fur or wool skins for robes, mats, etc.: If the skin is not fresh, soak it thoroughly in soft water (never use hard water in tanning), then beam or scrape off all meat or loose fiber. Then put the skin in a lukewarm bath made of water with enough oil of vitriol to make it as sharp as vinegar, with a little salt added. Leave the skin in this 24 to 30 hours, when the native grease should all be removed and the glue in the skin loosened from the fiber of the skin so as to give the tanning materials an opportunity to operate directly on the glue and fiber. Now wash the skin thoroughly, wool or fur, with strong soft-soap suds, removing all dirt or grease from wool or fur; then rinse in clean water. Dissolve in hot water, 2 ozs. alum, 1 oz. Glauber salts, 1 oz. bo-

rax, saltpetre the size of the end of your thumb, and add a little salt. Add this mixture to sufficient water, that is a little below blood heat, to cover the skin. Leave skin in this 24 hours; stir it up occasionally so that the liquor will reach all portions of the skin. Now strip out all the liquor that can be with the hands and hang up in the shade to dry, for the sun will make it hard. When bone dry sprinkle the flesh side with water, fold up until the leather is evenly damp, not wet; then stretch to length, then to width, then pull it back to its natural shape. If the skin is handled according to directions the leather will be as soft and pliable as velvet. Success in making leather depends more on the manner of handling than on the materials used. To tan a skin without first removing all native grease and oil means that the leather will soon become rotten.

Where the necessary attention to detail cannot or will not be given, it will be money in pocket to the owner, and probably mean the saving of a good hide, to send it to a first-class tanner or furrier.

Judging Classes at Guelph.

"The farmers are bound to be on top!" was the exclamation of an eminent educationist and public man on the occasion of a recent visit to the Agricultural College and Winter Fair at Guelph, and surely in a country so pre-eminently agricultural as this it should be so, since the prosperity of all the people depends on that of the farmer. The Ontario Agricultural College, thanks to the liberality of the Legislature, the generosity of wealthy Canadian citizens, and the wisdom, tact and foresight of the honored President and his staff, is rapidly assuming the dignity, proportions and position of a great Agricultural University, as, in addition to its former facilities, the magnificent new hall and library building donated by the estate of the late Mr. Hart A. Massey, at a cost of \$40,000, and the new botanical building erected by the Government add greatly to the appearance, efficiency and usefulness of the institution, while plans are being prepared for the erection, on the north side of the campus, of a splendid building, provided for in the princely gift of \$125,000 by Sir William Macdonald, to be devoted to the teaching of Domestic Science and the training of Public School teachers for the teaching of Nature Study. When these are completed and in full operation, Canada may claim to have the most complete as well as the most efficient Agricultural College on the continent. And who can estimate the value or the influence for good of such an institution, well manned and well managed. During the present winter close to five hundred students in regular and special courses will receive instruction in practical farm work and technical training in the various departments of the school, as, in addition



SECOND-FLOOR PLAN OF MR. J. P. BEATTIE'S BARN.

Outside posts (cattle barn), 18 ft.; hip-roof posts, 16 ft.; from barn floor to peak, 40 ft.; large hay and straw chutes (cattle barn), 4 x 4 ft.

to the regular courses of two to four years, there are special short courses being given by practical instructors in dairying, domestic science, poultry-raising, and grain and stock judging. In the regular courses close to 200 students are registered, while in the dairy classes are over 80, in the poultry classes 30, and in the short courses of two weeks each in stock and grain judging are over 100 in the first contingent, to be followed by another of about the same number at the close of the first course, the applications having been more numerous than could be accommodated at one time, rendering a division into two classes necessary.

These short courses in stock-judging have met with a ready response from farmers and farmers' sons from all parts of the Province, while there are also one or more registered from the Maritime Provinces and from Manitoba and Alberta. Into the large and comfortably heated and seated class-room used for the regular lectures on stock-judging, representative animals of the different classes and breeds are brought, where, standing on a mound of sawdust, they are inspected by the class, their relative merits canvassed first by the class and afterwards by Professor Day, the head of the Department of Animal Husbandry, who corrects the mistakes and misapprehensions of the class, pointing out the good and the faulty points, placing the animals in the order of merit and giving the reasons why. In some cases experienced and practical breeders from outside the institution are invited to judge and place the animals and to address the class on the breeding, feeding and management of the various classes of pure-bred stock and of beef and dairy cattle, and also of horses, sheep, and swine; while questions are freely asked by the students and answered by the lecturers, making a very useful and helpful course and one calculated to inspire young men to a love of good stock and to instruct in their successful management. Prominent among the breeders taking part in the instruction of the judging class in the opening week was the Hon. John Dryden, who, in a thoughtful and vigorous address, gave the results of his experience and much inspiration. In the poultry department Mr. Graham has a very interesting class studying the breeding, care and management of farm poultry; while in the dairy school Mr. Stonehouse, as instructor in factory work, and Miss Laura Rose, in home dairying, have each large and interesting classes, especially the latter, with a bevy of bright, intelligent, wholesome-looking country girls, who are receiving a thoroughly practical training in cheese and butter making on up-to-date methods that are readily applicable to home dairying on the farm. A visit to the College at this season, when all these courses are in session, is a rich treat to one in sympathy with this important work, giving a wider outlook and more exalted views of the importance and value of the institution to the country.

A Word for the Farmer's Boy.

Wm. Thompson, President of the National Live Stock Exchange, in an address at St. Joseph, Mo., recently, paid the following tribute to the farmer's son:

"It is an acknowledged fact that the welfare of our nation, our government, our churches, banks, schools, railroad interests, commercial relations, interstate and international, depend largely upon the success of our unlimited agricultural resources. I say the agricultural resources are unlimited if only husbanded upon economical principles. This being true, and as this is the greatest industry of our country, why should it not receive the greatest attention and most thorough study? Why should farming not be a profession handed down from one generation to the next, and thus constantly improved? Should not the farmers' sons, as well as other young men, follow agriculture as a profession? They, by right of birth and rearing, should be the agriculturists of the next generation. At present you will find farmers' sons in all branches of industry. Many of them will say: 'Sorry is the day I left the old farm.' In former days the boy of the farm had a hard life; toiled early and late, with but few hours free from labor, wherein he could cultivate a taste for knowledge. And when once interested, his chances were so meager he could scarcely satisfy the desire to learn more about his chosen profession.

"The surroundings of the farmer's boy have now changed. His work has been lightened, by labor-saving machinery. The marvelous system of newspapers, those great educators of the people, bring him wisdom and information from all parts of the world and place them at his disposal wherever he is.

"The people of the whole country show their interest in him by liberal appropriations of money through the legislatures for more and larger agricultural schools, where it will be possible for him to become more familiar with his chosen profession. Besides this, our nation highly honors his calling. The agriculturist is to be found connected with all our leading industries. They are in the majority in our legislative bodies, and, of

a truth, upon them we depend for laws to protect our institutions, and such laws are felt through the entire system of our government. The farmer is an important factor in our national life. All encouragement should be given to the son to follow in his father's footsteps. Then shall poverty be wiped out, and all cities prosperous and flourishing. The farmer's son can largely make or mar the future of our country."

Our Popular Premiums.

The following letters just received, among hundreds of others of a like nature, from persons who have been sending us in new subscribers to the "Farmer's Advocate" show what perfect satisfaction our premiums are giving. Just at present the knife and teachers' Bible are the popular leaders. Owing to the excellence of the paper, it is easy to secure new subscribers, and there is yet ample time and opportunity to obtain good lists of new names. A copy of the Christmas number also goes to each new subscriber.

"A DANDY KNIFE."

I received the pocketknife a few days ago. It is good, strong and serviceable. Every person that has seen the knife thinks it is a dandy. Your Christmas number itself was worth \$1.00.
Bruce Co., Jan. 2nd, 1902. N. Garland.

"BIBLE AND KNIFE EQUALLY GOOD."

The premiums which you sent me have reached here safely. The knife is the best I ever saw for the purpose, and is fully up to my expectations.
Oxford Co., Ont., Jan. 3rd, 1902.
P. S.—The Bible is equally well liked.
Geo. Nichols.



THE LATE SIR JOSEPH H. GILBERT.

TEACHERS' BIBLE, AND BRACELET.

The handsome premiums were duly received, for which accept hearty thanks. I don't see how you can give such fine premiums for so few names. Will try to send more.
Sincerely,
Lewis Peterson.
Brampton Co., Ont., Jan. 8th, 1902.

BEST KNIFE I'VE EVER SAW.

I received premium knife all safe. It gives good satisfaction; am well pleased. It certainly is what the farmers want: it is good and strong and has such a fine handle, and is nicely engraved. It is by all odds the strongest and handsomest knife I ever had or saw, and I have had and seen a good many.

D. K. S. Secord.
Northfolk Co., Ont., Jan. 6th, 1902.

"THE WATCH A BEAUTY."

I must apologize for not having acknowledged the receipt of the premium watch you sent me some time ago. I think it a little beauty. It's a perfect timepiece, and was much appreciated by my daughter, who thinks everything of it. I cannot understand why farmers hesitate to subscribe for a paper that contains so much valuable information that is both instructive and entertaining. It should be in the hands of all, both young and old. I must congratulate you on the handsome Christmas copy you issued this year. It alone is worth the price of the paper. I wish you a prosperous New Year.
H. I. Elliott.
Richmond Co., P. Q., Jan. 7th, 1902.

"MORE THAN PAYS FOR ITSELF."

The "Farmer's Advocate" is unsurpassed for a farmer's paper. Several times has the one issue more than paid the cost of the paper. I wish you success in the future, and I enclose \$1.00 for subscription up to 1902.
Hastings Co.
George Sharp.

"ALL PRONOUNCE THE KNIFE FIRST-CLASS."

Received your nice knife all right, and think it is a very complete and good knife for a farmer or anyone else. I have shown it to everybody, and they all pronounce it first-class. I have two boys of my own, and they are trying to get one also by getting you subscribers. We were very much pleased with your Christmas number. Have shown it to a neighbor, and think he will subscribe. Wishing the "Advocate" every success,
J. M. Davis.

York Co., Ont., Jan. 6th, 1902.

The Devil's Lane.

What has been styled "the devil's lane" was the partition fence, or, rather, fences, between two farms whose owners had so little to occupy their minds that in order to give themselves something to think about, they devoted their attention to hating each other. Their hatred was so great that they would not join line fences, each building half, but instead, each "cut off his nose to spite his face" and built his own fence independently, leaving a very narrow little strip of ground between the two fences, that advertised to every passer-by the existence of grudges, rancor and malice. The little narrow strip between the two fences was called the devil's lane. It meant hatred between the old people, which often passed on to the children in the form of a feud, ending in all kinds of litigation, mutual annoyance and injury, and even bloodshed.

Death of Sir Joseph H. Gilbert.

We note the recent death of Sir J. H. Gilbert, for so many years associated with the late Sir John B. Lawes in agricultural experimental work at Rothamsted, England. He was a native of Hull, and was educated at Glasgow and other universities. Since 1843, he conducted the Rothamsted laboratory work. The work of these two great investigators has never been surpassed.

DAIRY.

Wintering Strippers.

To the Editor "Farmer's Advocate":

I herewith send you results of an experiment in wintering strippers.

I always have my cows calve early and run with their calves all summer, taking the calves into the stable in the fall and wintering the cows in the bush dry. Last fall I wished to try if it was worth while stabling them and giving them extra feed for butter in the winter. I took two good average cows and kept an account of the extra cost over wintering out and what weight of milk and butter they yielded. They did not have the chill taken off their drinking water and the milk was simply set in shallow pans. The prices are for feed delivered here. In the first week of February my supply of shorts was getting low, so I gave them extra bran, with bad results. I then got corn and oil meal in place of shorts, increasing the butter and cost, but not the milk, as per list:

WEEKLY TOTALS FOR TWO STRIPPERS CALVED APRIL 20TH AND 27TH, 1900.

	Bran, at \$15. lbs. lbs.	Shorts, at \$17. lbs. lbs.	Corn, at \$23. lbs. lbs.	Oil meal, at \$27. lbs. lbs.	Total cost per week.	Milk, at 10c. per 100 lbs.	Butter, at 25c. per lb.	Total weekly value produced.	Profit for extra work per week for two cows.
1900, Dec. 24th to 31st	28	22	..	..	\$0 40	125	4	\$1 12	\$0 72
1901, Jan. 24th to 31st	28	47	..	..	50	189	5 1/2	1 60	1 00
Feb. 1st to 7th	42	22	..	..	60	100	4	1 10	60
Feb. 21st to 28th	63	42	21	1 23	190	8	2 19	96	

At the end of February they were putting on flesh rapidly, but I had to let them go dry in March, as they both calved early in May, 1901. I fancy there might be a combination of the second and fourth rations, which, while cheapening the latter, might give as good results.

FRANK LONGBOTTOM.

Eastern Manitoba.

Ed. Note.—From cows that had suckled calves all summer one would not expect very good results as winter milkers under any circumstances, but this record shows that such cows can be made to pay for the extra feed. Our correspondent does not state when he began to feed these two cows. If it was not until December 24th, they doubtless had by that time shrunk in flesh and in milk flow, and would not respond to feed as readily as if they were liberally fed and carefully housed from early fall as soon as the pastures got dry and the nights cool. Perhaps Mr. Longbottom will give us some further particulars regarding this test, and also tell us how the grain ration was fed and what fodder was used, as doubtless the effects of the grains fed would be modified by the fodder ration. The bad results following the increased bran ration would also be worthy of further investigation. We hope our correspondent is making further tests along similar lines this winter.

Jersey Butter Tests in 1901.

Last year 338 seven-day buttermaking tests of that number of cows were reported to the American Jersey Cattle Club, the highest being 25 lbs. 11 ozs. In amount of butter produced, the seven-day tests ranged as follows:

Between 14 and 15 lbs	87
Between 15 and 16 lbs	68
Between 16 and 17 lbs	52
Between 17 and 18 lbs	41
Between 18 and 19 lbs	40
Between 19 and 20 lbs	9
Between 20 and 21 lbs	19
Between 21 and 22 lbs	6
Between 22 and 23 lbs	4
Over 23 lbs	12

The cows producing the largest amount of butter for different periods are as follows:

Largest 7-day test— Nina Ress of Sennett 103282	25 lbs. 11 ozs.
Largest 10-day test— Brown Bessie 20th of H. F.	21 lbs. 13 1/2 ozs.
Largest 14-day test— Pilot's Becky 158892	39 lbs. 3 1/2 ozs.
Largest 17-day test— Koffee's Winnie	38 lbs. 1/2 oz.
Largest 28-day test— Luna K. 140386	61 lbs. 3 1/2 ozs.
Largest 30-day test— Adelpha Marigold 133768	91 lbs. 10 1/2 ozs.
Largest 365-day test— Nellie Jeff 116282	425 lbs. 4 ozs.

Ventilate the Stables.

The health of the cows and the flavor of the milk depend largely on the ventilation of the stable. Who has not felt a sickening sensation on entering in the morning a warm, close stable filled with cows that have been breathing out carbonic acid gas all night and breathing in the same foul air over and over again because it cannot escape from the stable and no fresh air can enter? What can be more unhealthy for the animals?

The Dairy Test at Guelph.

We give herewith a tabulated statement of the result of the dairy test at the Ontario Provincial Winter Fair held at Guelph last month. The awards were made by the following scale: 20 points for each pound of fat, 4 points for each pound of solids not fat, 1 point for each 10 days in milk after the first 30 days (limit 10 points):

The Eastern Ontario Dairymen's Convention.

(Specially reported.)

The twenty-fifth annual convention of the above Association was opened in the Opera House, Whitby, on Wednesday, Jan. 8th, and lasted three days. The President, Mr. D. Derbyshire, addressed the convention in a comprehensive yet pithy address, in which he emphasized the following points: (1) More poor cheese in 1901 than in 1900. A later inquiry by Mr. Gallagher, as to cause of this, was answered by—"the maker," chiefly. (2) Creamery butter has gone ahead—well ahead. Quality is better, packages improved; indeed, an all-round move up. In this connection, the speaker strongly emphasized the necessity of making "fancy" goods. The best factories have improved their output in cheese and butter, and why not all? Statistically, he noted that a gain of half a million dollars had been made in the value of the 1901 output over 1900; the total value of the 1901 make being \$25,500,000, besides an additional income to the farmer of \$14,500,000 for hog products. (3) Credit was accorded the Hon. Mr. Fisher for his efforts re refrigeration facilities; but "We still want refrigerator cars with plenty of ice to carry our cheese to Montreal the same as our butter." (4) Education of patron and maker—the maker at the Dairy Schools, and the patron to be helped by the maker, and both by their own individual energy. (5) Unity, the improvement of factories, and the securing and proper paying of butter-makers were enforced.

THE COW AND HER FOOD.

Mr. J. Gould, of Uxbridge, in ten minutes laid down a few laws re the cow and cow food that astonished some in the audience. His cow (he keeps about 30) must at four years of age make 275 lbs. of butter a year or somebody else must feed her. His stable is well lighted, clean and warm. His cows come in at 15 to 18 months old, and milk 10 1/2 months each year. Six of these cows gave quantities varying from 5,168 to 9,359 pounds of milk in one year, the smallest quantity being from a three-year-old. The average test of the whole herd, as supplied by the creamery where the milk was delivered, ranged from 4.1 to 4.4 per cent. butter-fat. The milk is weighed and re-

corded daily. When the average milk per cow over the Province is remembered to be about 3,000 pounds per year, the above record is the more noteworthy. While more pith was crowded into this short address than is frequently found in a two-hour speech, it nevertheless lacked in that an accurate account of the cost of production was not given, the net profit being the real goal we want. Mr. G. feeds bran and ensilage every day in the year, trading oats for the former. He buys no feed for his cows, and keeps 50 head of cattle on his 110 acres. His 17 acres corn returned 225 tons of ensilage. In addition to the other stock six-weeks pigs are bought at \$2 to \$3 each and fed on the skim milk. Mr. G. says he cannot afford to raise pigs.

CURING CHEESE.

Prof. R. Harcourt, Chemist at the Ontario Agricultural College, Guelph, followed with a concise account of some experiments in the curing of cheese, particularly as regards temperature. Cheese from the same vat were cured as follows: (a) Put into cold storage, 40 degrees F., direct from the hoop. (b) cured in curing room at 65 degrees for one week, and then put in cold storage. (c) Cured for two weeks and put into cold storage. The results showed that the cheese put directly into cold storage showed a gain of two per cent. in weight over those kept in ordinary curing room. As to quality, the result as given by experts showed a like verdict in favor of those put directly (and kept) in cold storage. Those cheese kept at 65 degrees for one week and then cold-stored stood highest in flavor. After four months these cheese were scored by Montreal experts and the results were identical. The Professor would not say that 40 degrees F. was the best temperature for curing, but thought these experiments pointed that way. He quoted from the work of Dr. Babcock, of Wisconsin, supporting the general trend of these experiments.

Mr. Derbyshire stated that in his experience curing for ten days at 65 degrees and then cold storage gave best commercial cheese.

Upon inquiry, Prof. Harcourt emphasized the necessity of lower temperature in cheese-curing than is usual. The saving in weight alone was looked upon as a very important matter financially.

Summing up, Mr. Harcourt says: "Our

NAME OF COW, ADDRESS OF OWNER, AND PRIZE AWARDED.	Total pounds in 48 hours.	Total pounds fat.	Total pounds solids not fat.	Total points for fat.	Total points for solids not fat.	Points for days in milk.	Aggregate points.	FIRST TEST.				SECOND TEST.				THIRD TEST.						
								Pounds milk.	Test per cent. fat.	Pounds fat.	Per cent. solids not fat.	Pounds solids not fat.	Pounds milk.	Test per cent. fat.	Pounds fat.	Per cent. solids not fat.	Pounds solids not fat.	Pounds milk.	Test per cent. fat.	Pounds fat.	Per cent. solids not fat.	Pounds solids not fat.
Shorthorn cow, 36 months and over—																						
1. Bonnie Doon 35018.	106.6	3.809	9.17	76.18	36.68	.3	113.16	35.8	3.6	1.288	8.4	3.00	53.6	3.55	1.902	8.7	4.66	17.2	3.6	.619	8.8	1.61
2. Irish Ivy 36816.	99.7	3.906	8.63	78.12	34.52		112.64	35.0	4.1	1.435	8.8	3.08	47.1	3.9	1.836	9.0	4.23	14.6	4.35	.635	9.1	1.32
3. Indian Rose 25005.	113.6	3.511	9.82	70.22	39.28		109.50	38.0	3.1	1.178	8.8	3.34	59.0	2.9	1.711	8.6	5.07	16.6	3.75	.622	8.5	1.41
4. Jubilee's Julia 23523.	89.4	3.129	8.08	62.58	32.32		94.90	29.8	3.45	1.028	9.1	2.71	44.3	3.45	1.528	9.0	3.98	15.3	3.75	.573	9.1	1.39
5. Golden Gem 31958.	61.7	2.336	5.55	46.72	22.20	.9	69.82	20.8	3.7	.769	8.9	1.85	31.2	3.75	1.170	9.0	2.80	9.7	4.1	.397	9.3	.90
6. Amelia Maud 24022.	43.4	1.737	3.88	34.74	15.52		50.26	16.1	3.55	.571	9.0	1.44	20.6	4.2	.865	8.9	1.83	6.7	4.5	.301	9.2	.61
Alex. McKinnon, Comins-by.																						
Shorthorn heifer, under 36 months—																						
1. Belvedere 3rd 35576.	65.6	2.723	6.16	54.46	24.64		79.10	23.4	4.0	.936	9.4	2.19	29.5	3.65	1.076	9.4	2.77	12.7	5.6	.711	9.5	1.20
2. Juliet 35301.	53.8	2.091	4.95	41.82	19.80	.9	62.52	16.6	3.5	.581	9.1	1.51	28.6	3.9	1.115	9.2	2.63	8.6	4.6	.395	9.5	.81
3. Lady Thorndale, Vol. XVI.	28.8	1.065	2.74	21.30	10.96		32.26	9.6	3.9	.371	9.6	.92	14.5	3.6	.522	9.5	1.37	4.7	3.6	.169	9.6	.45
H. J. Davis, Woodstock.																						
Ayrshire cow, 36 months and over—																						
1. Annette 2493.	79.1	3.677	7.70	73.54	30.80	9.1	113.44	26.5	4.6	1.219	9.6	2.54	39.5	4.7	1.856	9.8	3.87	13.1	4.6	.602	9.9	1.29
2. Nelly Grey 2057.	102.1	3.800	8.66	76.00	34.64	.3	110.94	33.8	3.85	1.301	8.4	2.83	51.6	3.6	1.857	8.5	4.38	16.7	3.85	.642	8.7	1.45
3. Annie Laurie of Brookside 3339.	101.8	3.488	8.89	69.36	35.56		104.92	34.1	3.25	1.108	8.7	2.96	50.4	3.45	1.738	8.7	4.38	17.3	3.6	.622	9.0	1.55
4. Queen 2227.	67.8	2.758	6.08	55.16	24.32	9.8	89.28	23.1	4.2	.970	9.0	2.07	33.6	4.0	1.344	9.0	3.02	11.1	4.0	.444	9.0	.99
5. Briery Banks Susie 2847.	81.1	2.868	6.81	57.36	27.24	3.5	88.10	26.2	3.2	.838	8.3	2.17	41.1	3.7	1.520	8.5	3.49	13.8	3.7	.510	8.4	1.15
N. Dymont, Clappison.																						
Ayrshire heifer, under 36 months—																						
1. Ladysmith 11071.	81.1	3.605	7.50	72.10	30.00	3.8	105.90	25.3	4.55	1.151	9.4	2.37	42.4	4.4	1.865	9.2	3.90	13.4	4.4	.589	9.2	1.23
2. White Rose 13194.	78.7	3.122	7.26	62.44	29.04	1.0	92.48	27.1	4.1	1.111	9.3	2.52	38.5	3.9	1.501	9.2	3.54	13.1	3.9	.550	9.2	1.20
3. Ruby 2nd of Hickory Hill 10416.	59.7	2.396	5.46	47.92	21.84	5.3	75.06	19.6	4.1	.893	9.3	1.82	30.0	4.0	1.200	9.1	2.73	10.1	3.9	.393	9.1	.91
4. Lady White 11072.	56.7	2.287	5.23	45.74	20.92	6.6	73.26	19.2	4.1	.787	9.0	1.72	28.1	4.0	1.136	9.4	2.66	9.1	4.0	.364	9.4	.85
5. Esoterie 10321.	41.8	1.781	4.25	35.68	17.00	8.1	61.08	15.0	4.0	.600	9.5	1.42	22.0	4.0	.88	9.5	2.09	7.8	3.9	.304	9.5	.74
W. M. Smith, Scotland.																						
Holstein cow, 36 months and over—																						
1. Winnie Win 2161.	119.1	4.078	10.91	81.56	43.61		125.20	40.6	3.4	1.380	9.1	3.69	59.5	3.4	2.023	9.2	5.47	19.3	3.5	.675	9.1	1.75
2. Queen DeKol 2nd 1819.	87.2	2.674	7.41	53.48	29.64	9.9	93.02	29.6	3.0	.888	8.5	2.51	43.0	3.0	1.290	8.5	3.65	14.6	3.4	.496	8.6	1.25
3. Cornelia Artis 565.	71.6	2.222	6.19	41.41	21.76	1.7	73.90	26.5	2.9	.768	8.2	2.17	36.8	3.0	1.104	8.4	3.09	11.3	3.1	.350	8.3	.93
G. W. Clemons, St. George.																						
Holstein heifer, under 36 months—																						
1. Pauline Pietertje Clotilde.	92.8	3.477	8.69	69.54	34.76		101.30	30.6	4.1	1.254	9.5	2.90	46.6	3.6	1.677	9.3	4.33	15.6	3.5	.546	9.4	1.46
2. Mercena 3rd 2711.	91.1	3.386	8.19	67.72	32.76	2.5	102.98	32.8	3.2	1.019	8.5	2.78	47.3	3.75	1.773	8.8	4.16	14.3	3.95	.564	8.8	1.25
3. Cornelia Schuiling 2713.	71.5	3.194	6.87	69.88	27.48		97.36	25.3	4.75	1.291	9.0	2.27	36.1	4.65	1.678	9.4	3.39	13.1	4.7	.615	9.3	1.21
4. Ianthe Jewel Med 2708.	76.8	2.889	6.71	57.78	26.96	6.4	91.14	26.3	3.85	1.012	8.8	2.31	38.5	3.8	1.463	8.8	3.38	12.0	3.45	.414	8.8	1.05
5. Princess Pietertje De Kol 2516.	69.7	1.955	5.99	39.10	23.96	6.2	69.26	22.6	2.9	.655	8.7	1.96	35.6	2.8	.996	8.6	3.06	11.5	2.65	.304	8.5	.97
G. W. Clemons, St. George.																						
Grade cow, 36 months and over—																						
1. Utopia.	106.3	4.463	9.54	89.26	38.16		127.	36.0	4.2	1.512	9.0	3.24	51.9	4.2	2.179	8.9	4.61	18.4	4.2	.772	9.2	1.69
A. McDougall, Guelph.																						
Grade heifer, under 36 months—																						
1. Nellie.	68.2	2.504	5.97	50.08	23.88	2.3	76.	23.1	3.5	.808	8.7	2.00	34.6	3.75	1.297	8.8	3.04	10.5	3.8	.399	8.9	.93
2. Jennie.	53.1	2.116	5.08	42.22	20.32	10.0	72.	19.0	4.0	.760	9.6	1.82	26.7	4.0	1.068	9.6	2.56	7.4	3.9	.288	9.5	.70
3. Mary.	48.4	2.221	4.59	44.42	18.36	2.6	65.	16.1	5.0	.805	9.5	1.52	23.9	4.4	1.051	9.5	2.27	8.4	4.35	.365	9.6	.80
A. McDougall, Guelph.																						

recent laboratory research re cheese making and curing indicates that the milder flavor, the higher per cent. of moisture and the meatier qualities required in the cheese of to-day may all be conserved and improved by a judicious use of the cold storage on the lines indicated above. The moisture is especially conserved and dryness thus avoided. The maker secures greater averages, and satisfaction should generally follow. The results commercially as to time needed in curing cheese under these changed conditions remains to be more perfectly considered."

LEAKS IN THE CREAMERY.

Prof. Hart, Superintendent of Dairy School, Kingston, read a masterly paper on "Creamery Leaks." In the beginning he called attention to the fact that losses in so-called co-operative creameries are very great.

Insufficient Skimming.—This is a chief loss, and very much greater than is usually supposed. He pointed out that a separator that will skim 3,000 pounds in the spring of the year should not have more than 2,500 put through it in the fall and winter, owing to less perfect work under fall and winter conditions.

Churning at too high a temperature is a very common source of leak, very easily stopped, but rarely looked into.

Very often cold-storage rooms are too large and badly constructed; then there is wet sawdust in ice houses, improper lining up of shafting, belts too tight and too loose, overlaid machinery. Mr. Hart spoke of the necessity of workmen cultivating a trained ear re the quiet and proper running of apparatus. Leaking unions and valves, split pipes, boxing and bearings not properly looked after,—all these received a brief but forceful emphasis.

The speaker then directed his attention to the oversight needed in the handling of engines and boilers, and the use of fuel. Exhaust steam allowed to go to waste, boilers not properly bricked in nor set or not kept clean, ill-fitting furnace doors, wet and green wood—these were rated soundly as third-class work.

Mr. Hart finds in connection with his school work that a mixture of soft-coal screenings and bituminous or soft coal (large) makes a very economical fuel. Much waste follows the unintelligent use of coal as fuel. To burn screenings alone is not economical unless by forced draft. Stress was laid on the value of coverings for steam pipes and the use of steam at high pressure.

Upon a discussion following, Mr. Hart explained that he pasteurizes his milk (160 to 180 degrees F.), cools to 70 to 75 degrees F., ripens at that temperature, and cools to 52 to 54 degrees F. to churn. He laid stress on the added keeping qualities, cleaner flavor and more uniform quality of the pasteurized article.

The discussion was cut short at this point, at least a half hour too soon, in the judgment of the audience, who evinced a keen relish in the paper and the discussion.

Hon. Sydney Fisher followed with a few pertinent remarks on the very critical present position of the cheese industry in Canada, and remarked, before sitting down, that there was small inducement to honest, competent and superior men in the cheese industry when wages ranged from \$300 to \$500 a season.

DAIRY BUILDINGS.

Mr. J. A. Ruddick, Chief of the Dairy Division at Ottawa, commented on "Creamery and Cheese-factory Buildings." The idea of permanency when building, and the economy of it; the careful choosing of a site; sanitary and beautified surroundings, and the superiority of cement floors, received terse treatment in the initial part of his address. Insulation as applicable to curing rooms and refrigerators followed, during which the uselessness of the dead-air space as usually constructed, and the possibility of securing insulation more cheaply and effectively in other ways, was presented. Mr. Ruddick recommended an eight-inch space filled with planing-mill shavings (being always dry), instead of the usual two or three so-called dead-air spaces in insulated walls. Waterproof paper should be used, and not the common, cheap straw paper, as a wet paper or wet insulating substance has lost its chief insulating properties. Windows and doors should be double and well fitted, and the windows should not be movable, but tight. Cold-storage floors should be wood (not cement). A surface of two-inch plank, with bevelled edges so that there is a V space between the planks and this filled with oakum and pine pitch (not tar), makes a good finish.

Mayor Ross, of Whitby, delivered a happy address of welcome to the convention, and was followed in similar strain by Hon. Jno. Dryden. Hon. Mr. Dryden further commented on the need of a more practical use of college education and the value of a really technical education in all lines.

An interspersing programme of music and

song assisted materially in keeping the audience of five hundred people in a happy humor.

The Hon. Sydney Fisher very strongly impressed upon the Association the absolute and grave necessity of looking well to its laurels in cheesemaking, or the past enviable position will be lost to us—"Canadian cheese is falling from its past proud position." A startling but too true statement. This losing of place in the English markets is due chiefly to uneven and too high temperatures—a matter discussed elsewhere in this report. Steamships will likely be better fitted for carrying cheese to England this coming season than before—a matter for satisfaction to our dairymen.

Mr. Andrew Pattullo, M. P. P., Woodstock, added his quota to the mental enjoyment of the audience in a well-delivered address bristling with loyalty and good sense.

CHEESEMAKING.

Mr. G. G. Publow's address covered the routine of handling the curds, and the following was brought out in discussion: The curds should be gently stirred—agitators preferred. Salting should be done evenly, cheese dressed neatly and carefully, and gradually pressed. Mr. Publow recommended pressing for two days, and keeping at 65 degrees F. or below in the curing room. High piling usually results in some loss of fat; therefore, to get the desired result in silky, velvety feeling of the curd, pile moderately, and if necessary hold longer. Remember that high piling, retaining as it does more moisture and heat than moderate piling, may show a velvety feeling before the curd is properly mellowed and thus deceive an unskilled and untrained maker. Right mellowing at this stage is really a process of curing, and very important. The value of cold storage in conserving the good qualities of cheese was again impressed. Stress was laid on the advisability of holding cheese in the curing room at least 15 days before shipping. Weak body and overheating were really the faults found in much of the poor cheese. The use of ice in racks in curing rooms to assist in cooling the air was strongly recommended.

Mr. H. S. Foster, President of the Bedford Dairymen's Association, Quebec, addressed the meeting in a neat speech.

Dr. Van Slyke, of the State Experiment Station, Geneva, N. Y., read a paper on "Cheese Curing," which was most admirable and interspersed with terse and pointed comment, assisted by charts well illustrating the whole. Geneva has a suite of six curing rooms, completely controllable as regards temperature and moisture, and in these the experiments tabulated by Mr. Van Slyke were made. The first topic of the address was "The loss of weight during cheese-curing." This loss of weight is chiefly water; fat only under extreme conditions. Fat losses become rapid and serious at 75 degrees temperature and upwards. The per cent. of moisture originally in the cheese, the temperature of the room, the size and shape of the cheese and the saturation of the air are the chief influencing factors. The following figures are for 100 pounds of cheese and saturation varying from 65 to 80 per cent.—average about 75 per cent.:

Per cent. water.	Loss in weight in pounds.	
	1 week.	4 weeks.
55	9.0	16.75
45	4.45	9.45
35	3.30	5.70

It is to be noted that the loss of weight was not always in exact proportion to the amount of moisture. The effect of temperature on the amount and rate of loss of water in a 65-lbs. green cheese containing 37 per cent. water—in short, a cheese as nearly as possible like our Canadian cheddar—was shown by the following table:

Temperature.	Loss in weight in pounds.	
	1 week.	4 weeks.
55°	1.6	3.7
65°	1.9	3.9
80°	2.4	5.2

The loss of weight is greater during the first week than during any subsequent week. At over 70 degrees F. the loss of weight increases proportionately faster, due largely to the loss of fat.

Effect of Size of Cheese upon Loss of Water—This experiment showed that the loss was greatest in small cheese.

Influence of the Amount of Water in the Air (extent of saturation) on Loss of Weight.—The result shows that the greater the per cent. of saturation of the air the less the loss of weight, and vice versa. The chief value to us in this lies in the knowledge that the air in our curing rooms at such temperatures as are usual is altogether too dry, not only resulting in excessive loss of water from the cheese, but in a hard, indigestible (usually wasted) rind and an interference with the proper and right development of flavor and texture.

Dr. Van Slyke commented clearly and forcefully on the chemical changes that go on in cheese, which are such important factors in the production of proper flavors and textures, but did not deduce any definite data—"because of

the imperfections of our knowledge in this department of dairying." Many practical applications were drawn by the speaker, such as that water is money in the right place and in right quantities. Do not put too much water in green cheese, expecting to lose a large part of it in the curing and keeping, but rather keep to more normal quantities and preserve all of it as nearly as may be during the curing process. The higher the temperature the worse the flavor and texture became. Low temperatures (as low as 50 degrees to 55 degrees) gave finest cheese—mild flavor, silky texture and most perfect body. Cheese cured at 55 degrees scored perfect in five months. This agreed perfectly with the trend of the work outlined by Prof. Harcourt, of Guelph, and with the best sentiment of the meeting. Moisture should not be lower than 32 to 33 per cent. for best results.

The absolute necessity of being able to control the per cent. of moisture in the air of curing rooms and the temperature of the same was the burden of the argument of this whole convention. The thoroughness of the work outlined by our Geneva friend was heartily appreciated by the best minds of the convention.

BACTERIA IN MILK.

Dr. W. T. Connell, Bacteriologist, Dairy School, Kingston, took up the subject of the "Bacterial Infections of Milk." Lactic-acid bacteria are present in nearly all milk, and even in milk as it is drawn from the cow. These germs cause the usual souring of milk, and are useful when properly controlled. It is the basis of the best "starters." Lactic-acid cultures to be used for making starters can be had at cost price from either the Guelph or Kingston Dairy School. Hurtful species of bacteria are always found in manure, hoppers, and road dust, hence the need of keeping milk protected from these sources of infection. Milking with wet hands was strongly condemned. Whey in the usual condition is a very common source of injurious infection of milk. Infection of milk from well waters was shown by quotation from Dr. Shutt, who, having examined 1,000 samples of well waters, found a great majority of them "diluted cesspools." It was emphasized that the keeping of milk in good condition was a preventive measure against the development of any injurious bacteria.

Messrs. Zufelt and Publow, travelling instructors for the Association, presented their reports; the points covered in which have already been considered. We may add that Mr. Publow found May and June cheese better than in 1900, but July and August were worse, the chief defects being bad flavor, weak body, open texture, and acid cut. He also favored "combination" among factory owners, and one overseer, thus securing greater uniformity and better reputation.

Dr. Fletcher, Central Experimental Farm, spoke at length, and intelligently, upon "Permanent Pasture and Hay Mixtures." More intelligence and investigation needed here. Twelve pounds timothy and eight pounds red clover was recommended as a good mixture for general use. But the mixture most strongly recommended by Dr. Fletcher was as follows, viz.:

Timothy	6 lbs.
Common red clover	2 "
Mammoth red clover	2 "
Meadow fescue	4 "
Orchard grass	2 "
Kentucky blue grass	1 "
Lucerne	2 "
Alsike	2 "
White Dutch clover	1 "

The white clover and the blue grass were especially recommended to give a thick bottom and good wearing qualities. Red-top is suitable for wet lands, as an addition to the above; lucerne only on well-drained soils.

ECONOMY OF FEEDING.

Prof. Dean was received with an ovation that augurs well for the position he holds among the people. He launched into his subject with his usual gusto and vim. The "Economy of Feeding" occupied his attention chiefly. The College dairy herd under his management has reached a record of 8,114 pounds of milk and 326 pounds butter per cow per year. He finds bran and shorts at \$19 and \$20 per ton, respectively, cheaper foods to use with skim milk than oats at present prices, and argues that men should figure more and think more about feeding. Much depends on rearing right calves if the cows are to make 8,000 pounds of milk. Skim milk is the foundation for calf-rearing; bran and oats added produced a pound of gain for 1.87 cents—when oil cake was added the cost per pound of gain was greater and the gain less. New milk fed to calves made gain at cost of 6.7 cents per pound. He quoted a Vermont farmer who claims a value of 40 cents per hundred pounds for skim milk fed to cows. The importance of sending creamery skim milk home in good shape was emphasized.

PROBLEMS IN AGRICULTURE.

Prof. C. C. James, Deputy Minister of Agriculture, opened his address with a caution to dairymen as to the possibility of becoming over

self-satisfied. He turned to "Present Problems in Agriculture." He spoke of the enormous wastes in agriculture and of the problems daily presented in the matter of the stopping of waste, touching in an entertaining and very instructive way on soils, plants and animals as bases for problems needing investigation and settlement.

Dr. Fletcher spoke fluently and helpfully on "Flowers," and was followed by a happy speech by Prof. Dean, of Guelph.

THE OFFICERS-ELECT.

The report of the Nominating Committee was read and adopted, the officers of the Association for 1902 being as follows, viz.:

President, D. Derbyshire; 1st Vice-president, Jno. McTavish; 2nd Vice-president, L. L. Gallagher; 3rd Vice-president, Jno. Echlin. Directors—Div. No. 1, Edward Kidd, North Gower; No. 2, Wm. Eager, Morrisburg; No. 3, Jno. R. Dargavel, Elgin; No. 4, Jas. Whitton, Wellman's Corners; No. 5, T. B. Carlaw, Warkworth; No. 6, H. Wade, Toronto. Secretary, R. G. Murphy, Elgin; Treasurer, P. R. Daly, Foxboro.

POINTS FROM INSTRUCTORS.

Instructors' reports were received from Messrs. Bensley, Lowrie, Howie, Purvis, Ward, and Rabb. The chief points emphasized were:

1. Cheap makers hurt the cheese business.
2. Less suits against dishonest patrons.
3. Shipping cheese too close to the hoop.
4. Some improvement in milk delivered.
5. Some makers use too much culture, and one instructor thought that this was the cause of much deterioration in cheese.

President Derbyshire expressed the opinion that makers of inferior cheese will receive more summary treatment at the hands of buyers during 1902 than ever before.

On discussion of the reports, Mr. Publow strongly denounced the too common practice of selling green cheese.

Prof. Dean discussed "Moisture and Salt in Butter." The conclusion of the O. A. C. experiments were as follows:

1. Butter made from pasteurized milk contained $\frac{1}{2}$ to 1 per cent. less water than butter from raw milk.
2. The churning temperature, up to variations of 10 degrees, did not affect moisture per cent.
3. Washing at 44 degrees F. meant 7 per cent. more water than at 54 degrees F.
4. Fine granules left 12.3 per cent. water; coarse (size of corn), 14.2 per cent. water.
5. Average experiments showed that less moisture was found in the higher salted butter.
6. Working once or twice made no difference when the two workings were near together, but when the second working was about 24 hours later than the first, two per cent. less moisture was found.
7. When one ounce of salt is used only one half remains in the butter on an average; in other words, one half the salt runs down the gutter.
8. The amount of moisture retained by butter is largely dependent on amount of working.

Prof. Ruddick dealt with "Pasteurization of Milk and Cream." Denmark, New Zealand and Australia have adopted this practice largely—indeed, almost wholly—and a number of creameries in Canada are also following this line.

FLAVOR.

The fresh-made pasteurized butter is not quite equal to the unpasteurized article in prompt full volatile flavor, but in judging butter for export it is to be remembered that it is not on the consumer's table in less than two weeks, and at that period the pasteurized product is in the lead. The keeping quality of the unpasteurized butter is not equal to that of the pasteurized. Owing to the growing demand for a saltless butter, it is still more important that the milk be pasteurized (160 degrees to 180 degrees F.). Salt acting more or less as a preservative, it is important that a saltless butter be a very perfect, good-keeping article. As pasteurization destroys bacterial life, it is necessary to use pure cultures to assist in the ripening of the cream. An important phase of the matter is that pasteurizing the milk tends to remove objectionable food flavors. Mr. Ruddick, however, desired to make plain that such flavors as turnips and the like were not removed. That more uniformity of flavor would be secured in the product of a creamery he considered certain. Continuous pasteurizing machines are better than intermittent. They should be built of tinned copper.

The bulk of testimony at this meeting favored pasteurizing the whole milk rather than the cream, though Mr. Ruddick thought that it might be as well to pasteurize cream during hot weather. Rapid cooling after heating is essential for the cream, and to this a circular cream-cooler should be used. To cool the cream a vat would not do. Add the culture immediately after cooling. A good cooler and a good culture are absolutely essential in pasteurization. Cream containing more than .4 to .6 per cent. of acid may not be pasteurized.

Mr. Foster, of Quebec, added that he hoped

the people of the Eastern Provinces would wake up to take hold of the dairying question as the Eastern Dairymen's Association of Ontario had done.

THE GIST OF THE CONVENTION.

1. The bulk of the testimony of this meeting declared in favor of curing cheese at much lower temperatures than has been customary in the trade, chemical experts and practical men agreeing on this point. That the cheese so cured must, however, remain in the curing room and the cold storage much longer than formerly practiced was shown with equal agreement.

2. The pasteurization of milk or cream in creameries is looked upon by those most fitted to speak as an essential looking to an increasingly satisfactory and growing export trade in creamery butter.

POULTRY.

Producing Winter Egg.

BY JOHN B. PETTIT.

The hens that are most profitable are those that lay during those seasons of the year when eggs are scarcest and, as a natural consequence, highest in price. Any person keeping fowls is pleased when the egg-basket is well filled during the winter months, for then it is that the product of a well-managed flock goes a considerable way toward meeting the expenses of the house or keeping a fat pocketbook. In order, then, that our flocks may be most profitable, we must provide conditions which will be conducive to egg production.

It has been ascertained that laying hens depend less upon the seasons of the year than they do upon the weather. The old idea that hens could lay only during the spring and summer months, and that they had to rest during the winter to prepare for the next summer's work, has been exploded. All that is necessary to get eggs during the severest weather is to have comfortable quarters and conditions corresponding with the summer season when "any old hen" will lay, and good hens will lay the year through, with the exception of the time necessary for moulting.

The first and essential thing for winter eggs is warmth. Hens that are compelled to wade around through snow or slush to dig out a scant supply of food from barnyard refuse will not lay. And if they are fed all they can cram into themselves and have to roost in some old, open shed, or cold, drafty henhouse, the results will be none the more pleasing. The house should be so constructed that there be an apartment for roosting that is warmer than the remainder of the building. This should be so close and warm that water would not freeze in it when with the birds, even on the coldest of nights. The remainder of the building need not be so warm, for the fowls will keep themselves warm during the day with the exercise they must have in order to promote health and produce eggs. This exercise is best brought about by compelling them to dig all their grain feed out of deep straw or litter of some sort. If the day apartment is warm enough that the combs of the large-combed breeds—such as Leghorns and Minorcas—do not get a little frosted at the points and begin to sting, it is quite comfortable enough. Do not promote too great heat during the day by using large areas of glass. Remember that as soon as the sun leaves this glass it begins to attract the cold, and in a very short time the fowls that were enjoying the sun's rays through the glass are shivering with cold. Keep your fowls warm by exercise during the day and by good, close quarters during the night.

The next problem is that of feed. What, how, when and where shall we feed? To thoroughly answer that question one would have to write a short volume, so in this short article one cannot do it justice. However, one thing is certain, in order to get best results we must feed a variety. Take into consideration what a mixture an active hen will gather during a day in summer. Then in your efforts to get winter eggs, follow nature and bidly will be pleased and repay you for your trouble. What hens mostly need is nitrogenous matter, and this should be kept in mind in selecting our grains and other food. Do not fail to give lots of bulky food, such as mangels, sugar beets, cabbage, and boiled potatoes and turnips. Mix the two latter in the soft feed, and the former give raw. These go to promote health as well as variety, and take the place of too much grain, which produces fat, and a fat hen will not lay. Then a little meat or green bone (ground) should be fed at least twice a week. The grains should be fed in straw or some other litter, and if corn is used it should be cracked quite fine. A hen will dig harder for a little piece of cracked corn than for any other grain. Soft feed should be fed in clean troughs and in such a way that the hens cannot get into it with their feet. Feed regularly and not too often. Send the fowls to bed with full crops, but make them work until they are tired in getting them filled. Give plenty

of clean, fresh water. This is essential, as to produce an abundance of eggs, hens must have lots of water.

Now, I have found, and I believe that thousands of others have also, that it is the easiest thing in the world to get hens that are warmly housed too fat. In our desire to please the hen we overdo the thing, and before we know it we have a flock of sluggish, lazy, fat fowls that will not and cannot lay. The great secret is to keep them busy all the time and yet have it so that when their day's work is done they will be full and contented, and as near as possible the condition in which they would be after roaming the fields during a summer day. Fat fowls have been the reason of disappointment to many who have put large sums of money into fine, warm buildings, with the intention and expectation of soon making a fortune.

Finally, if we wish our hens to lay in winter as they do in summer, we must provide them summer conditions.

Wentworth Co., Ont.

Weights of Poultry.

The following were the dressed weights of some of the leading exhibits at the Smithfield (London, England) Table Poultry Show last month:

	The couple.
	Lbs. Ozs.
1st prize Dorking cockerels	20 8
" Dorking pullets	15 8
" Indian Game pullets	15 10
" Langshan pullets	13 15
" Black Orpington pullets	17 14
" Buff Orpington cockerels	21 4
" Plymouth Rock cockerels	17 1
" White Orpington pullets	18 11
" O. E. Game and Dorking pullets	11 1
" Dorking and I. Game cockerels	18 6
" I. Game and Dorking pullets	14 10
" Dorking and Bf. Orpington cockerels	17 9
" Blk. Orpington and Dorking pullets	16 3
" Farmyard cockerels	23 13
" Farmyard pullets	17 10
" Aylesbury drakes	22 8
" Pekin ducks	15 13
" Pekin and Aylesbury ducks	20 2
" Toulouse ganders	32 8
" Cross-bred geese	35 11
" Turkey cocks	59 8
" Turkey hens	49 10

The Toronto Poultry Show held last week surpassed all previous exhibitions, especially in the number of outside entries, but the bulk of the cups and trophies were won by local exhibitors.

GARDEN AND ORCHARD.

The Fruit Marks Act.

The inspectors under the Dominion Fruit Marks Act, for the prevention of fraudulent or improper packing of fruit for the market, report general satisfaction on the part of dealers with the provisions of the Act and a commendable willingness on the whole to comply with its requirements when brought to their notice, but not a few have evidently read it indifferently, if at all, and have especially failed to note that they apply quite as strictly to the home market as to the export trade. The consequence has been that, after fair warning through the press and a free distribution of the Act, in a number of cases the inspectors have been under the necessity of laying information and have secured convictions against dealers who have been discovered offering fruit in barrels or other packages faced with fair fruit while the bulk of the offering has been found to be of a much inferior grade. The experience of a long-suffering public has emphasized the need of protection from dishonest practices in this line, which have too long prevailed and been too meekly submitted to, while the reputation of Canadian fruit in British and foreign markets has suffered sorely in consequence. The Act is a good one and its enforcement should be encouraged and facilitated by all who have the best interests of the country at heart.

Best and Most Progressive.

Gentlemen,—I have just received the Christmas number of the "Farmer's Advocate," and I wish to extend to you my heartiest congratulations upon the splendid results of your labors. It is a fitting climax to your year's work. To my mind, the "Farmer's Advocate," in the front rank of the agricultural journals of America, stands for all that is best and most progressive in farming, and I know of no effort by any other publication, in the way of a "special issue," which can begin to compare with the Christmas numbers of the "Farmer's Advocate." There is only one thing I regret, and that is the absence of your own helpful, hopeful editorials.

Wishing you the compliments of the season, I beg to remain,

Yours very sincerely,
F. C. SEARS.

Wolfville, Nova Scotia, Dec. 27th.

APIARY.

Bees Under Snow.

"One year I had snow ten feet deep over a part of the hives, so that I lost track of several of them altogether, the wind bringing the snow from a peculiar direction, over and around a knoll. Of these colonies, not a single one was alive on the first day of the next May."

"This certainly has a bad look from your experience. How do you account for these losses?"

"The difficulty seems to be that, as soon as the hives are covered with snow, the pure air is cut off to a certain extent, which, combined with the warmth from the ground, and the snow not allowing that, and the warmth from the bees, to escape, makes the conditions so unusual that the bees become uneasy, break the cluster, go to breeding, consume an undue amount of stores, and die of diarrhoea and exhausted vitality before any of the brood, or brood of sufficient extent, emerges from the cells to take the place of the old bees which are prematurely dying off under these conditions. Young bees brought on the stage of action under such conditions do not seem to have the strength and vitality of those which emerge from the cells during September and October."

"Then you would not advise leaving bees where they are liable to be drifted under snow during winter?"

"No, not till I know what the result would be in my locality. Why I say this, that some say they are successful in thus wintering, and I am bound to believe them. To know this result, without any great loss, I would try two or three colonies for a winter or two. If they winter well, you can safely try more; and when you are sure of the ground you are treading upon, then you can risk the whole apiary or reject the plan as the case may be. This is the only safe way to venture into anything we are not conversant with."—(Doolittle, in Gleanings.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.

2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest, or which appear to be asked out of mere curiosity.

3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessary for publication.

4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

Veterinary.

WASHY COLT.

Will you kindly give me a cure for diarrhoea in colt. When suckling, if allowed to follow his mother when driven on the road, he would take diarrhoea. Now he is coming two years old. I drive him on the lines, and as soon as he gets warmed up in the least, if I only drive him a mile, he takes diarrhoea very badly. He appears to be in good health. His hair is a little dry, but he eats well and is in good flesh. Do not feed roots.

Elgin Co., Ont.
 A. P.
 Ans.—Your colt is what we call washy—that is, he is congenitally predisposed to diarrhoea when exercised. A permanent cure cannot be expected. It is possible the predisposition may disappear as he grows older. You will need to be very careful in feeding him. Do not give anything of a laxative nature. Always water before feeding, and do not allow any water after a meal if you intend giving any exercise. The following powders will prevent the trouble as long as their administration is continued, but it would not be good practice to give them constantly. Still it would be well to try them: Pulverized gum opium, 1½ ozs.; pulverized catechu, 3 ozs.; prepared chalk, 3 ozs.; mix, and make into 12 powders. Give one night and morning in boiled oats.
 J. H. REED, V. S.

GASTRITIS IN MARE.

Working mare, six years old, apparently in good health in evening, next morning very sick, breathing heavily, foaming at mouth and trembling in breast and shoulders; lived but 25 minutes. On opening, found probably 40 bots, which were not hanging to stomach; in separating food from stomach the inside lining came off and remained with the contents of stomach. Would these symptoms indicate any disease, or could poison have been the cause of death?
 British Columbia.

H. B.
 Ans.—Your mare died from gastritis, or inflammation of the lining membrane of the stomach. This disease may be caused by chills, changes in the weather, large drafts of cold water when the animal is very warm, irritating food, etc.; in fact, it is produced by about the same causes as the different forms of colic. The presence of the bots in the stomach was a normal condition, and had no connection with the disease or its results.
 J. H. REED, V. S.

CRACKED HEELS.

I have a driving mare whose heels are cracked most all the time. The cracks are dry and scaly, and sometimes matter comes from them. Her hind legs are swollen badly at times, more so when she stands in the stable for a couple of days. What treatment do you advise?
 Middlesex Co., Ont.

SUBSCRIBER.
 Ans.—Chronic cracked heels or scratches such as your mare has is tedious to treat. Give her a feed of bran only (no hay) at night. In the morning give a purgative ball of 8 drs. Barbadoes aloes and 2 drs. ginger, then feed nothing but bran and give water in small quantities until purgation commences, after which feed hay and a little grain. After the bowels regain their condition, feed 1½ ozs. Fowler's solution of arsenic in her bran or chop twice daily. Poultice the heels with boiled turnips to which is added a little powdered charcoal. Apply the poultices warm and change three times daily for three days and two nights. This will soften and remove all scales and scurf. If there be any cracks from which matter is exuding, dress once daily for two or three days with butter of antimony applied with a feather. Then apply three times daily a little of the following ointment: Boracic acid, 4 drs.; carbolic acid, 20 drops; vaseline, 2 ozs.; mix. If possible, give her rest in a box stall.
 J. H. REED, V. S.

UNTHRIFTY HORSE.

I have a horse coming four years old, apparently in good health. He eats very well. I feed him clover hay and one half gallon of oats three times daily, but he is very gaunt and thin all the time; has been so for about three weeks. I have had his teeth examined by a veterinarian, and pronounced all right. Is there anything I can give him to fatten him and cause him to carry a bigger barrel than he now has. I am giving him of the following powders: Sulphur of iron, 2 ozs.; gentian, 2 ozs.; ginger, 2 ozs.; cream of tartar, 2 ozs.; saltpetre, 1 oz.
 Perth Co.

OLD SUBSCRIBER.
 Ans.—The mixture you are giving is a very good tonic and should improve the appetite and digestion. If you would give him a boiled feed night and morning for a few weeks it will probably have the effect of giving him a little more middle. Boil about 1 part, by measure, of barley and three parts oats, all the better if a little flaxseed be added. Of this, feed, if he is idle, about five quarts. If working, feed more. Feed a reasonable quantity of good hay.
 J. H. REED, V. S.

LUMP ON COLT'S JAW (OSTEA POROSIS).

I have a colt, coming three years old next May, that took a swelling in left jaw, under the eye, last June; ran down six inches, crossed back teeth; lump was hard on outside, grew (like a turnip) to a point; was treated by a V. S. in September; kept blistering for a month. It kept growing larger; called in a second V. S. in October, who pronounced it lump jaw. Flesh had grown on teeth, which V. S. No. 2 burnt off; both eyes were affected, running water part of the time. Six weeks ago lump bursted and discharged for two weeks and dried up; is discharging a little at present.
 Leeds Co., Ont.

A SUBSCRIBER.
 Ans.—From symptoms given, I would say that your colt has an incurable disease known to the profession as "ostea porosis, or big head." In this disease the bone becomes porous, increases greatly in size, but very little in weight. It resembles in some particulars lump jaw in cattle, but is not the same disease. Your veterinarians have done all that can be done, and unless improvement can be noticed soon, it will be better to destroy the animal.
 J. H. REED, V. S.

COWS MILK FOR COLTS AFTER WEANING.

Would you please advise me if you recommend cows milk for colts, weaned, up to one year of age, of the light breeds? If so, do you prefer skimmed milk over the milk fresh from the cow? Some people claim skim milk gives more bone to the growing colt. Is this so?
 Lewiston, Me.

J. N.
 Ans.—I know of nothing so good for colts after weaning as cow's milk. The best results are obtained by giving the milk fresh and warm from the cows. While skimmed milk is good, it is not nearly as good as the whole milk. Skimmed milk contains no bone-forming substances not found in whole milk, and it lacks substances that are valuable as food for growing animals.
 J. H. REED, V. S.

TORPIDITY OF THE KIDNEYS.

I have three horses, all passing thick, milky urine. They are all right otherwise. Kindly let me know in your next paper the proper medicine to get for them?
 E. R.

Ans.—The condition you mention is due to a torpidity or partially nonactive condition of the kidneys. Get ¼ lb. each of saltpetre and powdered resin, mix well, and give each horse a tablespoonful in boiled food or dampened chop or bran every night for three doses. If this should not have the desired effect, repeat the treatment after one week.
 J. H. REED, V. S.

ABORTION IN COWS.

I have three cows that lost their calves, each in turn, about three weeks apart, one a heifer 22 months old; cows had been in calf about seven months; were served by a pure-bred Ayrshire bull between one and two years old; never had a cow on my farm lose her calf before; have fed cows on corn ensilage and hay, half clover and timothy.

SUBSCRIBER AND READER.

Ans.—There may have been some local cause for the abortions, or each cow may have received an injury from fighting, falling, jumping or something of that nature. If the causes were either local or accidental, of course a recurrence can be avoided by removing the cause. The three cases occurring in the same stable point to contagious abortion. If yours are the only cows that were bred to the bull mentioned, the blame can hardly be laid to him, as bulls receive the virus from diseased cows; while if the bull has been bred to other cows, and none but yours aborted, he is again cleared from suspicion. I hope it is not the contagious form. Still, the symptoms are suspicious, and it is better to be careful. Remove the aborted animals from the others, and thoroughly disinfect the premises in which they stood, by washing thoroughly with crude carbolic acid one part and water 20 parts. After it dries, give a good coat of hot lime wash. Flush out the wombs of the cows with 1 part corrosive sublimate to 2,000 parts water heated to 100 degrees Fahr. Of course this cannot be done after the wombs contract; but if you have any fresh abortions, do this every second day until all discharge ceases, and if any of the three mentioned are discharging, treat them in the same way. If any more abort be very careful to remove and destroy the fetuses and afterbirth. It is good practice to inject a little of the lotion mentioned into the vaginas of all pregnant cows once daily for a week or two. Of course the lotion must be heated to about 100 degrees before injecting. The person who attends to the diseased cattle should not come near the healthy ones, at least not before changing his clothing and disinfecting his hands. The latter can be done by washing in the lotion. If you are satisfied that it is not the contagious form you have to deal with, it is not necessary to take all this trouble, but if it be that form it is necessary.
 J. H. REED, V. S.

INAPPETENCE IN CALF.

I have a bull calf, eleven months old, which does not feed since he is weaned. I feed him corn, bran and oats. He looks healthy, but will eat nothing but straw. He refuses hay and even turnips. Please give me advice.
 Bruce Co., Ont.

G. W.
 Ans.—It is probable your calf is suffering from the effects of overfeeding. The digestive organs have been overtaxed and demand a rest. Calves should not be fed corn. I advise the following treatment: Give a purgative of about ½ lb. Epsom salts dissolved in a pint of warm water. After the bowels become normal, give the following: Bicarbonate of soda, 2 ozs.; powdered sulphate of iron, 1 oz.; powdered gentian, 1 oz.; powdered nux vomica, 1 oz.; mix and make into 24 powders; give one every night and morning. See that he gets regular exercise and feed in small quantities. Use sawdust for bedding.
 J. H. REED, V. S.

SUSPICIOUS COUGH AND DISCHARGE FROM NOSTRILS.

I have a horse, 13 years old, with a discharge from nostrils of a thick white or yellowish color, and sometimes it is thin and watery and of a green or bluish color; with a dry, hacking cough, especially noticeable in the mornings on going into the stable. Has been so since last April; has a good appetite and eats well, but does not keep in good condition. What is the cause, and what would be the cure?
 Dundas Co., Ont.

OLD SUBSCRIBER.
 Ans.—There are so many diseases in which the symptoms described are present that it is impossible to diagnose without a careful personal examination. I advise you to have your horse examined by a competent veterinarian without delay. The symptoms simulate those often seen in glanders, and if it be this loathsome disease, the animal must be destroyed. Your veterinarian will be able to diagnose the disease, and if there be any reasonable hopes of a cure will give treatment.
 J. H. REED, V. S.

ABOUT DOCKING COLTS.

1. What is the best age to dock a colt? 2. What is the best time of the year to perform it? 3. Is it against the law to do so?
 Huron Co., Ont.

S. J. R.
 Ans.—1. From two weeks to two months old. 2. In moderate weather, when it is neither excessively hot nor excessively cold. 3. No.
 J. H. REED, V. S.

RINGWORM.

Seeing a question about ringworm in issue of Jan. 1st, I send the following recipe, which cures bad cases: Borax, half an ounce; water (lukewarm), 1 teacupful; a small teaspoonful of coal oil. Apply two or three times daily until cured.
 Grey Co., Ont.

L. STERLING.

BLACK LAMBS.

I bought a registered Shropshire ram from a prominent breeder, bred him to my flock of pure-bred Shropshire ewes, and out of 42 lambs 14 were solid black, which occasions heavy loss to me. Have I any claim for redress from the breeder from whom I got the ram?

SHEEP BREEDER.

Ans.—It is an unusual circumstance. We have known occasional black lambs to come from pure-bred parents, but seldom more than two or three in a crop of 50 or 60 lambs. Can any of our readers account for the freak? The question of redress, it appears to us, should be a matter of compromise, since while one may charge it to the ram, the other may blame the ewes, and both may be right or wrong.

LAME FILLY.

I have a two-year-old colt that took very lame about six weeks ago, in her shoulder, while running in the pasture. Her shoulder was slightly swollen at first; but now the swelling has disappeared, but she still remains quite lame. I took her to a veterinary about two weeks ago. He said it was caused from a strain. He gave me some liniment to apply, and said she would be all right in a short time. But I do not see much improvement. Will you please give your opinion, and what to do for it?

SUBSCRIBER.

Norfolk Co., Ont.

Ans.—From symptoms given, I infer that there is no doubt about the seat of lameness, neither is there any doubt about it being a sprain. Injuries of this kind are frequently tedious or slow in making a recovery. I would advise you to blister the parts with 1½ drs. each of powdered cantharides and biniodide of mercury, well mixed with 2 ozs. vaseline. Clip the hair off the parts, rub blister well in. Tie her head so that she cannot bite the parts. In 24 hours rub well again, and in 24 hours longer wash off and apply some sweet oil or vaseline; let her head down now, and oil the parts every day until the scale comes off, when, if necessary, blister again. Repeat the blister every month until a cure is effected.

J. H. REED, V. S.

UNTHRIFTY COLTS.

We have two colts, one a draft and the other a Thoroughbred; both about nine months old, and from healthy sires and dams. The colts are being fed clover hay, and ½ gal. of fine-ground oats every day, and bran mash every other night for a change, the oats being omitted. They are in a warm stable, get plenty of fresh water and exercise, have a good appetite and are hearty, but will not eat roots or apples, etc.; they are thin in flesh. What is probably the cause of their being thin, and also a remedy?

C. D.

Ontario Co., Ont.

Ans.—As long as the colts are in a healthy condition there is no advantage in having them fat at that age, unless you want to sell them. The treatment you are giving them is rational and would seem to be all that they should require. We would prescribe patience until the early grass comes in spring, when "Dr. Green," as the English herdsmen term it, will probably cool their blood and make them thrifty, if they do not pick up before that time, which is unlikely, as they may have been thin to start the winter and require time to fill up. If it is necessary to have them fitted for sale, you might give them milk, either skimmed or new, if they will take it.

Miscellaneous.

PLANNING A BARN.

1. As I intend putting up a new barn next summer, between 80 and 90 feet long and about 50 feet wide, I would like to see in your columns a convenient plan. I would like to have the root-house, silo, feed-room and cistern all combined along the back.

2. Would you advise stone silo as high as the basement walls and tub on top.

READER.

Ans.—1. A plan of the style that might suit "Reader" appears in our Jan. 15th issue, 1897, and another in Feb. 15th, 1898, which he can see by referring to his file of the "Farmer's Advocate." We give in this issue a plan of a cattle barn which with modifications might suit him, and others will appear shortly.

2. No. Better make the silo tub from the ground up, as it will be less expensive, easier to build, and the silage will probably keep better.

THE BUTTER COMES NOW ALL RIGHT.

I followed your instructions and had good success in churning; but find I get butter in less time if the cream is ripened for 48 hours. Thanking you for your favor, I remain,

Middlesex Co., Ont. **MRS. N. D. MUNRO.**

WANTS THE PAINTING.

Where and at what price can I obtain a copy of picture, "A Visit to Old Friends," which appeared in Christmas number.

B. C. AMES.

Aroostook Co., Me.

Ans.—Write Paul Wickson, Paris, Ont., the painter of the picture.

LUCERNE FOR WINTER COW FEED.

Would you recommend lucerne as a better plant to produce winter feed for cows than red clover on light land in fairly good condition? Our clover does pretty well, but we can only count on one cutting, as the summer is too dry, as a rule, to produce a good second crop. If we seeded with oats could we depend upon a good crop of hay the following year? We have been successful in seeding with red clover in the fall with wheat.

Western Ontario.

READER.

Ans.—Lucerne is pre-eminently a summer forage crop, either for pasturing or cutting several times in the season for soiling purposes. Grown for hay, the coarseness of stalk occasions waste, but to overcome this thick seeding—say 20 lbs. per acre—is recommended, as giving a stand of hay of fine growth, and the curing of the hay should be done mainly in the cock, as if much exposed to the sun the leaves dry up and break off in handling.

The success of second and subsequent cuttings will depend (if rainfall be absent) upon the water from the subsoil, and this should not be too near the surface or root growth will be hindered, nor yet so deep as to fail to reach the plants. Here and there we have found lucerne doing well in Ontario, but as a rule the results seem variable. Better try it on a limited area first. If sown alone, it may be drilled or broadcasted, but the weed growth must be reckoned with, and the mower will have to be run over the crop the first season, lightly—perhaps twice. Sown with a nurse crop like a thin seeding of oats, the latter may be cut for fodder at an early stage. The seed should be lightly covered. With a good crop and suitable conditions, the second season's crop should be satisfactory.

INEFFICIENT BULL.

I have a pure-bred Durham bull, 14 months old, weighing about 1,050 lbs., that has never served yet. Veterinary surgeons pronounce him fit to serve. I feed him three quarts of ground oats and a peck of pulped turnips mixed with chaff three times a day and give him daily about two hours' exercise with other calves in yard. He mounts, but lacks ambition to serve. He always has been dull and sluggish since I bought him. I might feed more hay. I have tried him loose and on rope with heifers and dry cows down, but to no use. I would like to have your advice, and treatment, if any?

E. G.

Bruce Co., Ont.

Ans.—The bull has probably been fed rather heavily and kept fat before you got him, and without sufficient exercise. The treatment you are giving him is as nearly right as we could suggest. It might be well to give him less turnips and a little more hay to reduce his paunchiness. He will probably come to his work later on, and when the weather gets warmer, towards spring, he might be left out longer for exercise, which is the most likely thing to bring him right. As a rule a clumsy bull is more likely to serve if let loose with a small cow or heifer to hustle around and follow her up, and even if he fails, the exercise will tend to bring him right in time, but in winter care should be observed that he does not take cold. If he does not come right before spring, we would turn him to pasture with the cows and would expect him to get over the difficulty, but it means a great trial of patience in the meantime. We would try him by lowering the cow's hind feet in a hole, say in a manure heap.

SCOURING ON ROAD.

We have a valuable horse, rising five years old, that when driven scours. He is in first-class shape and feels well. What would be good to give him to stop it? He scours on the road only. I am as careful as I can be about feeding and watering. Some think it is his teeth. Others think it is his stomach. But on account of his good form and feeling, I can hardly think it is either.

D. C.

Elgin Co., Ont.

Ans.—Horses subject to the above trouble should be watered and fed as long as possible before going on a drive. The evening feed should be the heaviest, and only clean oats fed from a slow-feed manger; take chill off water and give before eating. Give small quantity of clean hay in rack. Give also an occasional feed of peas, dry, uncracked, and mixed with the oats. Keep body well clothed, and try the following powders: Powdered opium, 1 oz.; sub-nitrate of bismuth, 2 ozs.; bicarbonate of soda, 4 ozs.; powdered cinchona bark, 1 oz.; charcoal, 2 ozs. If there is much flatulency accompanying the diarrhea, or the discharges have a disagreeable odor, try sulphate of soda ½ oz., alternate with liquor arsenicatis, 2 drs., in the animal's drinking water daily. See Dr. Reed's answer re "Washy Colt," in this issue.

SHORTHORN HISTORY.

Could you inform me of the best book containing the history of Shorthorn cattle and their origin; where can it be obtained, and price?

ADAM DAWSON.

Ontario Co., Ont. **Ans.—**Sanders' History of Shorthorn Cattle; price \$3.00; order through this office.

VENTILATION PLAN ASKED FOR.

Could you give me, through the columns of the "Advocate," a plan of ventilation for a one-horse box stall? The stall is very warm, and there are no means of ventilating it, except by the door or window. I remember seeing a ventilator for such a stall, which started about a foot from the floor, consisting of a box tube (4 x 4 inches, inside measure) through to the roof; then, again, another tube from outside to let in the fresh air; but I forget its details.

Two Mountains Co., Que. **E. A. BRUNEAN.**

Ans.—See Central Experimental Farm barn ventilation plan in March 1st and Mr. H. S. Foster's in April 15th (1901) copies of the "Farmer's Advocate," which all readers should preserve for reference. One of our self-binders, which you can secure by sending us two new subscribers, is very handy for that purpose.

ONTARIO FIRE RANGERS.

Can you tell me anything about the Fire Rangers of Ontario—what is their work and what salary do they get, for what length of time are they employed, and to whom should one apply for a position?

SUBSCRIBER.

Ontario Co., Ont.

Ans.—The Bush and Fire Rangers are appointed to see that the laws respecting the protection of the forests from fire and the laws and regulations respecting fish and game are strictly observed. They put up posters for the information of the public, wear badges, and in every way required endeavor to prevent and extinguish fires in the timber limits on which they are employed. They are also required to keep an accurate report, in a diary supplied for the purpose, of their doings in patrol and observations during the fire-ranging season, from May 1st to Sept. 30th in each year. The maximum salary is \$2 per day. One half the salary is paid by the Department of Crown Lands and the other half by the licensee or timber-limit holder on whose recommendations the appointments are made by the Department, of which Hon. E. J. Davis is head.

ROOTS WITH ENSILAGE—CORN CULTURE.

I would like your answer to the following questions: 1. Is it necessary to have roots, such as turnips or mangels, to mix with ensilage to make a good all-round food for cows and beef cattle? 2. Which is the best food for cattle, turnips, mangels or ensilage? 3. Can corn be worked entirely by the use of a weeder and scuffer, or should it be hoed also?

J. N.

Wellington Co., Ont.

Ans.—1. Not exactly necessary. The majority of those who have silos raise no roots. Our best feeders, however, have of late years come to the conclusion that to feed a medium quantity of roots in addition to ensilage is a decided advantage.

2. No one of them is a sufficient food alone. If only one of the three is to be grown, then ensilage would be most profitable.

3. Except for weeds which spring from the root, such as Canada thistles growing around the hill, corn can be kept perfectly clean without the use of the hoe if the other implements are good.

COLOR OF PIGS—A RIDGELING BULL.

1. Should the pigs from a pure-bred Yorkshire white boar be all white, although the sows bred to him are part Berkshire? 2. Also, have a bull, eleven months old, apparently a ridgeling. Is there any remedy for the same? Will he be any use for service?

W. S. L.

Ans.—1. The pigs sired by Yorkshire white boars are almost invariably white, even from Berkshire sows. There are rare exceptions, some of the pigs in the litter coming spotted, and occasionally, but very rarely, one or more marked like the Berkshire. 2. The bull, having his testicles held up in his body, may serve and be fruitful in a few cases, but such are rarely sure stock-getters or nearly so, and it would be unwise to depend upon him as a breeder or to use him to any considerable extent, as a large proportion of his offspring, if he got any, would be liable to the same defect. Better feed him for beef.

PUMPING WATER TO BARN TANK.]

Having been a subscriber to your valuable paper for over twenty years, and not having troubled you for any information, I felt free to ask you some questions with regard to my water supply. I have a boarded well, 188 feet deep, at about 150 feet from barn. Is it easier to pump the water into the bottom or the top of a tank situated at the barn, and what kind of a pump would be best, as I use a windmill to do the pumping.

R. T. F.

Wellington Co., Ont.

Ans.—The water can be pumped in either at bottom or top, but the former is preferable. Coming up into bottom of tank, you can easily protect the pipe from frost, which cannot well be done if brought in over top. More pipe would be required also, and a leak pipe below. In bringing in at bottom, put on a long screw and lock nuts.



"A commonplace life," we say and we sigh;
But why should we sigh as we say?
The commonplace sun in the commonplace sky
Makes up the commonplace day.

"The moon and the stars are commonplace things,
The flower that blooms and the bird that sings,
But sad were the world and dark our lot,
If the flower failed and the sun shone not;
And God, who sees each separate soul,
Out of commonplace lives makes His beautiful whole."

Uncle Silas.

He was a glum, unattractive old man; nobody could deny that. He had been a sailor, but not much of a one; for he had never smelled salt water, and most of the time had merely coasted along one of the big lakes. He had never read much of anything, and had nothing to tell out of papers or books; and such observations as he had made in the world, he kept mostly to himself. He knew that he was disagreeable, and a knowledge of that fact made him additionally so.

This being the case, he was naturally shunned, more and more, even by such as were obliged to be near him; and this was the case with the Mowbray family. He was a kind of mortgage on such financial resources as they possessed; for the house in which they lived had been deeded them by the will of a relative, upon condition of their taking care of Uncle Silas during the remainder of his life.

Irrksome enough it was to Mrs Mowbray, who was only a cousin-in-law to the old sailor, and had much rather not have him in the house; but she was a good woman, meant to do her duty, and succeeded fairly well.

One autumn afternoon Uncle Silas was in the front yard with his chair leaned up against the side of the house. His face was a vinegar-cruet, and every angle of his body said, "Keep off." The children did not go anywhere near him; they never did; they had learned better. "He should be petrified into a statue, and labelled 'Loneliness Couchant,'" thought one gay girl, as she passed. "Why are we encumbered with him?" thought Mrs. Mowbray, as she glanced out of the window. "But he has a right here, and we must endure him."

Young man, if you expect to become aged (and you well may, for life is sometimes terribly tenacious), look well after your mind and heart; keep them both as active as possible; otherwise you will be a very lonely individual. Without books, magazines, papers, or congenial companionship, Uncle Silas was passing a dreary old age.

There was a rush and a scream in the little front yard; Gladys, the eldest daughter, came frantically rushing to the house. "Joey has fallen into The Dry Well!" she cried. "He pried up a board to see what was there, and slipped in. Oh, he is dead! My poor little brother! Save him! save him, somebody!" she shouted, with the inconsistency of grief.

Several men were there, in a very few minutes; but none of them dared do anything excepting to let down a candle to see if there were any poisonous gases in the well. It went out before it had gone down very far. "He's probably dead, by this time," they murmured, mournfully, while the mother stood by, wringing her hands and trying not to faint.

There was a falling back among the men. Uncle Silas crowded to the edge of the old well, with a long rope that he had found somewhere. In apparently an instant or two's time, he had tied one end of it to a tree near by, and the other to his body.

"Avast there!" he shouted, "and bear a hand! Let me down quick, and pull me up quicker when I give three hauls at the rope!"

"You will be strangled," exclaimed the foreman of the fire company, stepping between him and the well. "Are you crazy, man? The well is full of damp!"

"Avast, I say!" shouted Uncle Silas, giving the foreman a push that sent him against the tree. "I will get the boy, dead or alive—probably alive. Mind the anchorage"—pointing to the tree—"and don't let go. Cast the lead!"

He was gone ten mortal hours, the mother thought, though it was really but a few seconds, before there were three tugs at the line, and the little boy came up, alive though unconscious, with the rope tied carefully around him; but no Uncle Silas. He came a few hours later.

The day the old sailor was buried in the family lot, Mrs. Mowbray kissed the stern, weary old face. "We did not know what a treasure we had in him," she sobbed.—(Will Carleton's "Everywhere.")



"TOTTIE'S PLAYFELLOWS."

Hints for Wash Day.

Try washing red table linen in water in which a little borax has been dissolved.

Add a few drops of ammonia to the blue water to whiten the clothes.

Clothes turned right side out, carefully folded and sprinkled, are half ironed.

Sprinkle salt on a wine stain and pour hot water through until it is gone.

Wet fruit stains with alcohol or pour boiling water through them.

Kerosene in the boiling water whitens clothes safely, especially such as are yellow from lying.

Put in a tablespoonful to each gallon of suds.

For very yellow or grimy things, make an emulsion of kerosene, clear lime water and turpentine in equal parts. Shake them together until creamy, then add a cupful to a boilerful of clothes and boil for half an hour.

The same emulsion is good for very dirty things, such as jumpers, overalls, working shirts, children's trousers. Use it in conjunction with strong suds, as hot as the hand can bear, and rub a little directly upon dirty grease spots. Let the clothes stand five minutes before washing out, and be sure to have the second suds and the rinsing water as hot as the first.

If coffee is spilt on linen the stains can be removed by soaking the part in clear, cold water, to which a little borax has been added, for twelve hours.

If the stain is from tea or fruit, do not put the articles in cold water, or the stain will become set. Simply pour boiling water over it until it disappears, which it will do if quite fresh.

"Tottie's Playfellows."

In the Christmas number of the "Advocate" we gave our readers as one of its pictures "A Christmas Box," it being a hamperful of little pussy cats which had just arrived at their destination. This time we also offer them another four-legged little quartette of arrivals, the baby puppies of Tottie's own Queen Mab.

Tottie has stolen away from her nurse to have a frolic with her new treasures. Her eyes beam with mischief as she first offers and then withdraws an imaginary morsel wherewith to tempt them to the extreme end of the ledge upon which they have inquisitively gathered to look at her. She knows that if she can only get them far enough away from the restraining paw of their mother, they will fall almost plump into her arms, and then won't they have a high old time together? Toby, being the most adventurous of her four-legged majesty's babies, has already landed safely and been caught by his little mistress, from out of the shelter of whose arms he looks complacently at the excited group above him. The artist has caught and given expression to the mixed sensations with which the mother doggie watches mischievous Tottie. There is maternal pride in her restless offspring, there is evident doubt of Tottie's intentions, and also just a suspicion that she may join in the coming game of romps herself.

H. A. B.

Georgia is nothing if not original when it comes to rhymed obituaries. Here is the latest:

"He has climbed the golden hills—
Heaven was always his intention;
Fought through the war, died with the chills
And never got a pension."

the To-
ring the
kinds of
exception-
uses have
od prices.
of live
ast two

\$ 5 35
4 60
4 00
4 50
3 80
4 50
4 12 1/2
3 65
3 25
4 00
3 50
55 00
3 50
4 50

56 1/2 c. to

for tim-

15 c. to

to 70c.;
turkeys.

osperous
Market.
selling

er.
00
50
00
50
12

hat the
at an
a rival
at To-

ard to
and the
Cattle

s, omit-

ogs.
.932
.209
.570
.780
.757
.116
.557
.862
.382
104
765
942
271
607
306

ease of
ase of
of last
market
many
e Park

head;
cows,
\$40.
\$5.50

5 to
ckers',
pigs,
\$4 to

eady;
\$6 to
choice
mixed,

eady;
or to
25 to
can-
alves,
mixed
eavy,
light,
10c.
choice
4.75;
1, \$5

heep,
heep,

the
t is
paid
from
num-
ss.
L.

An Afternoon at a Women's Institute.

BY LAURA ROSE, ONTARIO AGRICULTURAL COLLEGE.

In this fast-moving age nothing comes as a great surprise; still, I must say that on my last Institute trip I was surprised. I have watched from the first the development of Women's Institutes, but I had not thought to see them make such rapid progress, and that was the pleasant surprise I received. Why, it was not unusual for the women to outnumber the men at the meetings, and when, as was often the case, a separate meeting was held, the hall would be full, and it did me good to see the businesslike way in which most of the meetings were conducted.

Many ladies, and, for that matter, men, too, will say, "But what good are these meetings, anyway?" I wish all such inquirers could attend some of the sessions of such Institutes as those of East York, Halton, Brant, and others equally as flourishing. In the first place, the Institute brings women with like interest together. All are to a more or less extent interested in homemaking and housekeeping, and something pertaining to these usually forms the basis of the papers read, the address given, or the informal talk or discussion.

At several of our meetings we had what we called "A chat with housekeepers on house-keeping." We started with Monday, taking it as wash day. The ladies told their method of washing flannels, colored and white clothes; what washing preparations they used; discussed washing machines, etc. Then followed a little talk on starching, drying and folding the clothes. Next came ironing day, and many useful hints were thrown out to make easier that hot work—the use of an old saucepan and tin cover to heat the irons in, rubbing the irons over with bathbrick before heating, the use of wax to keep the irons smooth when ironing, what clothes should receive extra care and those which might be slighted—really there was so much to say on the subject we just had to leave it to hasten on to mending day. The truth of the old adage, "A stitch in time saves nine," was emphasized—darning weak places to prevent holes—a rent is much better darned with ravelings carefully taken from a strip of like material than when mended with silk or cotton thread, even though it be an exact match.

Thursday we treated as calling day. It was shown there was much need for sociability—a pleasant interchange of visits amongst the homes—not the formal calls or "at homes" now fashionable in the city, but more after the good old days when friends came to spend the afternoon and take tea. There was a warmth and genuineness about that old-time hospitality which we would do well to imitate. That we cultivate the social side of our character is just as essential as seeing that the family is well fed or that they attend church regularly. Just in this particular the Women's Institutes are doing a good work among the ladies in the country. It brings them together, they get acquainted, and other interests enter into their often too monotonous lives.

Friday was discussed as sweeping and dusting day. The use of the broom and carpet-sweeper was talked over, the latter being considered more hygienic and easier, although it must be used in connection with the broom. The feather duster was denounced, as it only scatters instead of gathering up the dust.

Saturday, perhaps, was considered the most important day of all, as the preparing of food for our bodies was assigned as that day's work. General methods were brought out, such as the necessity of using the measuring cup and scales. Instead of using so much time and material in the preparation of fancy cakes and rich pastries, it was deemed better to have simpler and more nutritious dishes, such as scalloped potatoes, tomatoes or salmon, milk toast, omelets, etc.; a hot dish followed by fruit is better than fruit followed by cake.

A little talk on making the Sabbath a day of peaceful rest and quiet enjoyment, both for the young as well as the old, brought out some commendable thoughts. One lady told how certain books were reserved for Sunday use only. Others said they provided a special treat in the way of homemade taffy, fruit or nuts; while another said the customary Sunday walk with "Pa" was the treat her little folks looked forward to during the week.

Who can estimate the good resulting from earnest women discussing together problems which affect so vitally the home and all its varied interests.

Drill Sergeant, who has been drilling raw recruit for a considerable length of time in drill lessons, but can never get him to understand the order—"Right about face." Raw Recruit (to himself, with a sigh of relief)—"Thank goodness, I am right about something."

The boarder was sitting at breakfast, vainly endeavoring to cut a piece of steak. He called the landlady, and said: "The next time you give me steak you might give me two pieces." "Why?" said she. "Because I have a box upstairs wanting a couple of hinges."

Ingle Nook Chats.

My dear Guests,—

The holiday festivities are over, and the souvenirs given by loving friends, and memory, are all that now is left of that memorable time. Memory is by some claimed to be a precious boon, and so perhaps it may sometimes be considered; when life still glows in roseate hues, no doubt the memory of past happiness, nay, even of grief, but enhances present joy; but when a heart is bowed beneath a sorrow too deep for words, does not the brightness gone before but more forcibly draw our attention to the gloom of the present? Ah, well, there is always the future to which to look forward, and for those who may chance to dread even that there is consolation in remembering that—

"The clouds have a silver lining, don't forget!
And though he's hidden, still the sun is shining,
Courage instead of tears and vain repining,
Just bide a wee and dinna fret."

A strange mood for the Hostess, you think? Well, are not women proverbially creatures of caprice; one cannot always account for moods.

I was pleased to be favored with photographs of three of my "Advocate" pen-friends, "Moache," "Puss," and "Essex," and thank them very much for remembering; indeed, in the matter of gifts I was very fortunate, although I did not hang up my stocking.

An exceptionally bright letter from "The Baby," a new guest, gave me much pleasure. Here's the hand shake, and just deposit your baggage in the most convenient corner and appropriate the cosiest seat you can find. "Mother's girl and father's boy all in one"—what an important little personage "The Baby" is. Fortunate parents to have such a sunbeam about their home; may you never shine less brightly, girls-dear. Yes, it is pleasant to receive many letters, but one sometimes grows lazy about answering them. I always like my guests to send a letter along with their work; it makes us more at home with one another, you know. Plenty of time yet for that "mantle" to descend; be careful how you use it should it alight upon you. Come again and often, "Baby."

"Weary Wiggins' Brother."—Thank you for your letter. Anything concerning the old friends of "Way-side" always interests me. "W. W." should find his present work congenial; compliments of the season to him when you write.

Jessie D.—I am glad you find pleasure in the Ingle Nook; please make yourself comfortable, and continue to share your company with us. You are fortunate in your first attempt.

There are several other new arrivals to whom I should like to speak individually, but space will not permit, so I offer them, collectively, my sincere thanks for their kind wishes and also for their co-operation, without which we should certainly fail to succeed.

OUR COMPETITIONS.

A large portion of the work sent in response to Contest XVI, was below the average. However, there were some very creditable poems received. The prizes have been awarded as follows: Class I, Miss Jessie Dunphy, Upper Blackville, N. B.; Class II, Miss Jennie Crosby, Brazil Lake, Yarmouth, N. S.; Class III, Miss Maud Jose, Rossmore, Ont. Other contributors were: Arthur D. Lloyd; R. E. L.; Frank Rae; Netta M. Nixon; Betsy S. Kelly; "Antrim Farm"; Martha Frankfort; L. Galbraith; A. L. McDiarmid; Bessie Bray; Fanny Fulton; Geo. H. Meld; Alex. Bell; Alice Ethel Bingham; Clara Hartel; John Dunlop; Alice Bull; "Thorndale" (a letter and poem came from Thorndale, but was not signed).

Contest XVII, announced last issue, is easy and amusing, and I hope to receive many contributions to it.

THE HOSTESS.

Ingle Nook Chats, Pakenham, Ont.

PRIZE POEM—CLASS I.

The New Year.

(By Miss Jessie Dunphy, Upper Blackville, N. B.)

I know not what of gladness,
Of revel or of mirth,
I know not what of sadness,
May greet the New Year's birth.

No need to know! For ever clear
Before me as I roam,
Hope's perfect music still I hear,
And know—beyond is home.

Time's iron hand may banish youth,
May banish peace and rest;
But I have proved each year this truth,
Who hopes is truly blest.

PRIZE POEM—CLASS II.

The New Year.

(By Jennie Crosby, Brazil Lake, N. S.)

The New Year is coming! We hail him with gladness,

We welcome him gaily with laughter and mirth;
Although in our hearts there are touches of sadness,
As the dear old year dies at his successor's birth.

The merry bells ring through the air cold and clear,
'Tis the holiday season and none wish to roam;
In every direction good wishes we hear,
From strangers abroad to the dear ones at home.

As the new leaf is turning, may old age and youth
From the world's grasping struggles for power and wealth rest;

May they hold high the standard of love, peace and truth,
And in all their doings be graciously blest.

A few days ago a beggar accosted a Jew, who was standing at the door of his "ole clo'" shop, with the remark: "Could ye oblige me with tuppence for my bed?" "Mine gootness," replied the Jew, "tuppence for a bed. Bring it in."

Something About Tunbridge Wells.

"A Happy New Year to you" is my message to all who on the first days of the second year of our new century take up their old friend, the "Farmer's Advocate." After satisfying themselves with the beautiful illustrations, the timely articles and most interesting correspondence upon its earlier pages, who knows but they may turn to our Home Magazine, and, giving a glance at Mollie's little corner, send her, in thought, a kindly greeting across the turbulent wintry waves of the big Atlantic Ocean which rolls between us? Believe me, my friends, you have the heart of Mollie with you even though her visible self is for the time being in a very beautiful and story-full (not strictly historical, you understand) corner of the English county of Kent. My gaddings have come to an end for awhile, and I am again at quiet anchorage with my dear old relative at Tunbridge Wells.

One of my late letters told of that dreadful fog which lasted four days and which followed so closely upon the triumphal procession of the Royal travellers through London. And now, over a month later, there are still roses to be gathered in sheltered nooks, and belated blossoms smile up at you as you take your morning constitutional between the box-lined flower beds in the garden or amidst the greenery which never wholly forsakes the lanes and hedgerows of the dear Old Land. Neither birds nor flowers become frozen into utter speechlessness here. There are with us always the holly and the ivy and the other greeneries, which manage to hold their own in spite of anything which that imp of a Jack Frost may do. So far he has treated us very kindly. He has touched us but slightly, and probably this being his usual kind consideration for Tunbridge Wells is the reason why invalids choose it for their winter residence, and thus too is accounted for the anomaly that a place so avowedly healthful should yet be so full of pale-faced people languidly reclining in bath-chairs, each drawn at leisurely pace by a human biped who has become so accustomed to his daily round that he looks about as intelligent as a bit of mechanism. Never in my life have I seen so many invalids, never have I seen so many bath-chairs. One meets them by dozens, mostly occupied by rheumatic sufferers, and if one did not get used to the sight one would become reduced to a condition of chronic depression, and end, perhaps, by needing a bath-chair oneself. Not that all are invalids who come to Tunbridge Wells. By no means. There are a good many who apparently lead indifferent butterfly society lives here as elsewhere. Nor are we without our struggling poor. There are times when I put on my thinking-cap and wonder, and wonder, why everybody seems to want to live in cities, to crowd and elbow one another, when there is space and to spare in our big Northwest. It is computed that London's population increases by forty thousand yearly, and the problem of the housing and feeding of this vast multitude is a very serious one for England. Homes on the grand stretches of prairie in the Dominion would solve it for them, and open another channel through which her Colonies can help the dear old motherland to which they are proud to belong and whose battles they are so ready to fight, as ready now as when that weary war at first began, for I hear of another Canadian contingent having started for South Africa. May God guard our gallant boys and bring them safe home again. A kind voice asks me upon what doleful subject am I writing that I have to do portentous a sigh? "I think I am trying to do the impossible," is my reply. "I believe I am trying to carry the affairs of the nation upon my shoulders." "Don't do that, my dear, but instead, just tell them something of what you saw of Tunbridge Wells when we took our last pleasant drives together."

I suppose every one who has read the novels of nearly a century ago is familiar with Tunbridge Wells as a fashionable resort where "the elite" met and gossiped, where the Beau made his finest bow to the Belle, who returned his greeting with the most graceful and most sweeping of courtesies; where scandals were unenclosed, where reputations were torn into shreds, and where elopements were arranged, when society met at the "pump room," where it "drank the waters" and took its turn at the public baths. The people who frequented the Tunbridge Wells of that day usually arrived in their own big lumbering travelling carriages or coaches, with postilion-ridden horses and a retinue of servants. Only "people of quality," as they liked to be considered, could afford to come to the Wells, and they would endeavor to time their visit to coincide with that of one royal personage or another.

Many of the old landmarks still remain, an old-time flavor lingering around them, but the inflated descriptions of some of the writers of long ago have perhaps led us to entertain misleading expectations as to their size and grandeur, though they cannot deprive one altogether of a certain amount of satisfaction in planting one's 20th-century foot upon the actual spot where our great-great-great-very-great-indeed progeni-

tors stood as they made their elaborate bows and courtesies so long ago. "Did you say, madam, that you would take both those specimens of the Tunbridge ware?" said an impatient voice from behind the counter of a shop under the Pantiles. "Yes! both," I said, though I had meant only to take one before I went off into that reverie in which I had pictured Beau Brummell twirling his cane and doing the "exquisite" to attract a glance from demure little Lady Betty Nonpareil as she was about to follow her grandmother, the Marchioness, into the family coach. One thing about those old novelists strikes me as significant. Whilst keenly alive to the conversational sallies of their heroes and heroines, they would have us think they were nearly all blind to the beauties of nature, for they say so little of the lovely rides and drives around the neighborhood. Here I am reminded that the state of the roads and the "stand and deliver" people who frequented the unprotected avenues to even the larger towns of those days might probably be the real reason for their silence. What gallant, think you, would dare to have offered to take his lady-love for drives, such as ours, to the High Rocks, to the Toad Rock, to the site of the Lower Cricket ground which you so heartily admired, to the old castle, to the spots where now stand the huge Hotel Wellington, or the Spa Hotel, etc., etc.? That was the day of fainting maidens and even swooning waiting-maids, the day when women only required backbones strong enough to support their whalebone hoops, and, higher up, those cushioned monstrosities, with the erection of which none but a Court barber could be entrusted. Ah! my dear, in those days if a woman had brains (and, depend upon it, they were no more born without them than now), she took the greatest pains to conceal the fact, lest the dreaded cognomen of "Blue Stocking" should fall to her lot.

But my time is up, my space is filled to overflowing. If the bath chairs of to-day have superseded the Sedan chairs of long ago, the pillion of the dependent woman-rider has been succeeded by the woman who rides to hounds and her sister who mounts her bicycle and goeth wherever she listeth. When we count our losses and our gains, I fancy that we shall not have much cause to quarrel with the sum total. Adieu. MOLLIE.

"John Alden and Priscilla."

Who that has read anything worth reading, has not enjoyed Longfellow's idyll of the wooing by proxy of the Puritan maiden, Priscilla, by "John Alden, the comely, the youthful," on behalf of the stalwart Miles Standish, the captain he almost worshipped, and for whom he would have laid down his life? His captain asked more than his life of him, he asked the sacrifice of his heart's desire, for John loved Priscilla too, and had dreams of his own concerning her. How loyal was the messenger, how the message was received, and how he sped in his wooing is the theme of the poem of which our picture is one of the illustrations.

John, the student acting as secretary or scribe for Captain Miles Standish, is aroused from a reverie, in which the Puritan maiden has for the last half hour been the central figure, by the fateful words of his master:

"Go to the damsel Priscilla, the loveliest maiden of Plymouth, Say that a blunt old Captain, a man not of words but of actions, Offers his hand and his heart, the hand and the heart of a soldier. You, who are bred as a scholar, can say it in elegant language. Such as you think best adapted to win the heart of a maiden."

Was ever such a coil? Was ever such an errand given to a lover? Poor John Alden!

His heart standing still in his bosom, . . . Thus made answer and spake, or rather stammered than answered:

'Such a message as that, I am sure I should mangle and mar it; If you would have it well done,—I am only repeating your maxim,— You must do it yourself, you must not leave it to others!'

Futile expostulation! Hear what the gallant captain replies:

"Truly the maxim is good, and I do not mean to gainsay it; But we must use it discreetly, and not waste powder for nothing.

. . . I was never a maker of phrases. I can march up to a fortress and summon the place to surrender.

But march up to a woman with such a proposal, I dare not.

I'm not afraid of bullets, nor shot from the mouth of a cannon.

But of a thundering "No!" point-blank from the mouth of a woman. That I confess I'm afraid of, nor am I ashamed to confess it!"

So through the woods John Alden went on his errand.

"Must I relinquish it all?" he cried with a wild lamentation. "Must I relinquish it all, the joy, the hope, the illusion?"

But the loyal heart was prepared to do even this. He says to Priscilla:

"So I have come to you now, with an offer and proffer of marriage Made by a good man and true, Miles Standish, the Captain of Plymouth!"

Mute with amazement and sorrow, with eyes dilated with wonder, feeling his words like a blow, the maiden replies:

"If the great Captain of Plymouth is so very eager to wed me, Why does he not come himself, and take the trouble to woo me? If I am not worth the wooing, I surely am not worth the winning!"

Poor John makes a great tangle of his arguments, and the quick-witted Priscilla has a good answer for them all; but at last John rises to his theme, and gives so exhaustive a catalogue of the virtues of Miles Standish that—

"As he warmed and glowed, in his simple and eloquent language, Quite forgetful of self, and full of the praise of his rival, Archly the maiden smiled, and, with eyes overrunning with laughter, Said, in a tremulous voice, 'Why don't you speak for yourself, John?'"

The next scene, that in which John Alden tells Miles Standish how he has failed in his wooing, borders on tragedy, but Priscilla, who has in

them a good turn in offering them a picture of the lovers as they walk through the woods near Plymouth, the land of the Pilgrims.

H. A. B.

Things to Know.

Should the chimney take fire, close the doors and windows, so there will be as little draft as possible; fill the dishpan half full of water and place the bottom of the pipe in it, and the fire will soon die out. Another method is to throw salt or sulphur on the fire, which will check it.

TO LOOSEN A GLASS STOPPER.—Soak a corner of a glass cloth in boiling water, and then wrap it round the neck of the bottle. The heat will cause the neck to expand, and then the stopper may easily be removed.

TO CLEAN BLACK CASHMERE.—Wash the material in warm suds in which a little borax has been dissolved. Rinse in very deep blue-water, and iron while still damp. If carefully done, the material should look like new.

BROWN BETTY.—Grease a pudding dish, and place in the bottom a layer of bread crumbs. Then nearly fill the dish with alternate layers of bread crumbs and chopped or sliced apples,



"JOHN ALDEN AND PRISCILLA."

large measure the saving grace of humor as well as a good share of practical common sense, on asking Alden for an account of the dreaded interview, says:

"Now that the terrible Captain has gone in pursuit of the Indians, Where he is happier far than he would be commanding a household, You may speak boldly."

Thereupon he tells of his own despair and the direful wrath of Miles Standish.

"Whereat the maiden smiled, and said between laughing and earnest, 'He is a little chimney, and heated hot in a moment.'"

As all love-stories should, this one also ends happily. Friendship is restored between the stalwart captain and his loyal friend, and at the wedding of John and Priscilla, Miles Standish, after gravely saluting the bride and wishing her joy of her wedding, says as his last word:

"I should have remembered the adage,— If you would be well served, you must serve yourself; and moreover, No man can gather cherries in Kent at the season of Christmas!"

If our picture should induce our readers to turn again to their book-shelves and take down from them Longfellow's story of the Courtship of Miles Standish, the "Advocate" will have done

strewing brown sugar, cinnamon and a little butter over each layer, topping off with crumbs. Bake one hour and serve with hard sauce.

CREAM CANDY.—One pound white sugar, one wineglass vinegar, one tumbler water, one half teaspoonful cream tartar, vanilla; boil one half hour, and pull, if you choose.

Humorous.

Why, did the penny stamp? Because the three-penny bit.

Self-made man, examining a school—"Now, my boy, what is the capital of 'Olland?" Boy—"An 'H,' sir."

What made Charing Cross? Watching London Bridge. Who taught London Bridge? The same person who taught Water-loo.

He was about to strike the one-armed man, when an old gentleman interfered, and said: "Ah, you surely would not strike a man who has only one arm?" "Wouldn't I?" he said. "If he lifted his hand to me I would strike him if he had no arms at all."

Some time ago, in the court of a certain Scottish burgh, a man was charged with the theft of a pig. The worthy Bailie, in sentencing the prisoner, remarked that pig-stealing in the burgh had lately been too rife, and finished his peroration thus: "And unless I make an example of you it's very certain none of us will be safe."

THE QUIET HOUR.

Nursing Our Wrongs.

"Sometimes we fondly nurse our grief
With soothing, tender care;
And then to see how fast it grows,
Makes e'en its owners start:
We feed it with the richest food
A fertile mind can give,
When smarting under fancied griefs
From those with whom we live,
And with this food it thrives so well,
And grows to giant size,
That though rich blessings strew our path,
They're hidden from our eyes.
'Tis wiser far to take our griefs
And troubles day by day
To Him who waits and yearns to bear
Our every grief away."

In the Sermon on the Mount, one sentence of the Lord's Prayer is particularly enforced, and a terrible penalty attached to the disregard of it. Not only does the punishment for an unforgiving spirit stand in the very heart of the prayer—"Forgive us our debts as we forgive"—but our Lord goes back after finishing the prayer to make this petition even more startlingly emphatic. "But if ye forgive not men their trespasses, neither will your Father forgive your trespasses." The same warning is given over again in the parable of the unmerciful servant. In this case the forgiveness, given freely at first, is taken back. The servant whose enormous debt has been forgiven, finds that when he shows no mercy to his fellow-servant, he forfeits everything.

Now, I am going to speak very solemnly to-day. Some of you are smarting under wrongs which you have received, or fancy that you have received. Perhaps you carry the unforgiving spirit so far as not to be on speaking terms with the person who has injured you. Sometimes people dare to keep this up for years. Often the first cause of offence is almost forgotten, but each one is too proud to make the first advances towards a reconciliation. I say people dare to do this, for it is a very daring thing to do, although it is so common that no one seems to be alarmed by it—common among professing Christians!

Think what it means to go on day after day without a hope of forgiveness, not daring—if we are honest—to ask our Father to forgive us as we forgive. It is no use asking for pardon when one is openly defying the awful warning, "If ye forgive not men their trespasses, neither will your Father forgive your trespasses." If we would not be shut out from God's mercy we must do our very utmost to effect a reconciliation. God will never accept us nor our gifts while we are cherishing an unforgiving spirit. "If thou bring thy gift to the altar and there rememberest that thy brother hath ought against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift." It does not say that thy brother must be reconciled to thee—that is not always within our power—but we are bound to do our part.

A sullen, half-hearted forgiveness is worth very little. Let us try to be imitators of God, for "as far as the east is from the west, so far hath He removed our transgressions from us." As Beecher says, "A forgiveness ought to be like a cancelled note, torn in two and burned up, so that it can never be shown against the man."

"'Tis not enough to weep my sins,
'Tis but one step to heaven—
When I am kind to others—then
I know myself forgiven."

But perhaps we are not outwardly at enmity with anyone, and yet are nursing the memory of some small wrongs or slights. We say we can forgive but not forget. Are we really forgiving after the pattern of Him who freely forgave those who nailed Him to the cross? He showed no sign of resentment towards those who heaped insult after insult on Him—insults beside which our trifling wrongs fade into nothingness.

"What? Wearied out with half a life?
Sear'd with this smooth, unbloody strife?
Think where thy coward hopes had flown
Had Heaven held out the martyr's crown.
How could'st thou hang upon the cross,
To whom a weary hour is loss?
Or how the thorns and scourging brook
Who shrinkest from a scornful look?"

Why is a slighting word so hard to bear? We are ready enough to own that we fall far short of perfection, but if anyone else hints at such a thing, and we hear of it, we are at once stirred up to indignation. Why? Are we seeking to please men or God? The world's opinion of us is of very little consequence, and proves very little as to our real character. One who is seeking for popularity will lead a very unquiet life, and probably fail to win the applause he is living for. No one admires a man who has no backbone; who, like the old man with the ass, is willing to go to any lengths to win approval from men.

Christ generally encourages by promises rather than by threats, and there is a great promise attached to this question of forgiveness—"If ye forgive men their trespasses, your heavenly Father will also forgive you." But, as a free and hearty forgiveness of injuries is a very difficult

grace for weak and hasty human beings to cultivate, a solemn warning is also given. Our Lord says that the unmerciful servant was delivered to the tormentors, and adds, "so likewise shall My heavenly Father do also unto you, if ye from your hearts forgive not everyone his brother their trespasses." From your hearts! Don't let our forgiveness be a matter of kind words and actions only towards those who have injured us. Emerson knew human nature well, knew that an outward kindness may sometimes be an insult, when he said,—

"Gifts of one who loved me,—
'Twas high time they came.
When he ceased to love me,
Time they stopped for shame."

Every thought must be in captivity to our Master. It is possible to control our thoughts, although many people indolently exclaim, "We can't help our thoughts." We have to help them, or forfeit forgiveness ourselves. One more verse and I have done.

"Kind hearts are here: yet would the tenderest one
Have limits to its mercy: God has none!
And man's forgiveness may be true and sweet,—
But yet he stoops to give it. More complete
Is Love that lays Forgiveness at thy feet,
And pleads with thee to raise it! Only Heaven
Means Crowned, not Vanquished, when it says
'Forgiven.'"

HOPE.

THE CHILDREN'S CORNER.

Studying Our Christmas Number.



Toby and Trotters and Tim
Took a fancy to study the news,
So they hunted around
And an "Advocate" found,
Which they promptly began to abuse.

The three little mischievous dogs
Had never, you see, been to school,
So of course couldn't read—
Didn't try to, indeed—
For they hated to do things by rule.

They tore Father Time into shreds,
Made mince-meat of Edward the King—
That finished the cover—
Then tried to discover
Some pictures that Christmas should bring.

"There's a horse that is having a drink!"
Said Tim, with his paws on the book,
"And five nice little cats!
Are they looking for rats?
And here's Santa! Oh look! fellows, look!"

"Piccadilly" they voted just right,
They kissed the sweet "Christmas Queen,"
Barked at horses and hogs,
Admired all the dogs,
But read not a word in between.

COUSIN DOROTHY.

PICTURE COMPETITION—CLASS III.

Tired Travellers.

A little boy once got the present of a monkey. His name was Willie. The monkey was young, and he taught it to do a lot of tricks. Willie had a sister. Her name was Bertha. She did not go to school, but Willie did, and the monkey stayed with her. One day the monkey followed him to school. The boys and girls liked to see it going through some tricks that Willie had taught it. He gave it the name of Jack. Willie had no father, and two years later his mother died. They came to a strange place, and had no friends. A short time after his mother died he got a chain for his monkey and started out for town. After he got there he did not know where he was going. He wandered round looking for some place to rest. He sat down on different doorsteps, but when the owners of the houses found him they would send him away. He would linger in front of the house and let his monkey go through some tricks; but even that would not coax them to let him stay. The sun was going down, and he was very tired; so back of a house. He expected to be driven away by angry words. But when the door opened, a pleasant lady appeared and asked him if he was a stranger, and said she had never seen him before. He told her his story, and she asked him to bring his monkey and come in and stay till morning, which he did.

MARTHA D. CROWE (aged 10).

PICTURE COMPETITION—CLASS IV.

Tired Travellers.

About the year 1870, over in the western part of Ontario, lived a widowed mother and her son Bill. A few months before, a terrible accident happened. Her husband was a bricklayer, and while on a very high scaffold was walking backwards on account of

some bricks falling, but he walked too far and fell on a large, rough rock and was killed. Billie being a manly little fellow (only eleven), wished to take the household cares on his own hands, and always looked up the advertisements in the "Farmer's Advocate." One evening his wish was gratified, for there was a little monkey for sale very cheap, and six months' credit. You may depend that he lost no time in securing him, and was soon on the streets. Billie's mother, before he went out, made him a little blanket trimmed with gold braid for his monkey. Then off he started, looking quite gay. His first day he did very well, but many disappointments happened before he was through. On this particular day, which was the turning point of his career, and which he thought the worst day he ever had, he sat down on an old doorstep, despondent, sad and weary, thinking of all the refusals he had had this morning, when he beheld a stranger coming along the road (who afterwards turned out to be an artist of great renown). When the man saw the little lad and his monkey, he was so taken with the picture that he asked him to remain in that position a few minutes. After using his brushes a little, he took Billie's address, then proceeded on his way. Some time afterwards, when Billie came home from a good day's work, he was surprised to get a message requesting him to be at a certain place that evening. When he arrived there, the artist gave him one-half of what he got for the picture, and asked him how he would like to paint pictures. Billie was delighted with the idea, so the artist promised faithfully to be his teacher without charge. Billie was never so happy as he was that night, and in after years, when he was asked how he got to be so great, he would say, "By looking up the advertising columns in the 'Farmer's Advocate.'" CHARLES CHAPMAN (aged 9).

If you wrote that story yourself, Charlie, you are surely cut out for an author.—C. D.

A Memory.

(By Mrs. J. H. Doolittle.)

A sweet picture hangs on Memory's wall
Of a far-off April day,
When a wee girl stood on the large doorstep
Of her prairie home at play.

As her shoes were thin and the ground was damp,
Mamma had told her to stay
Right there on the doorstep, nor venture down
On the cool, damp ground to play.

Her father came home from the prairie town,
And his heart welled up to see
His little one there in the sunlight fair,
Playing in innocent glee.

Extending his arms, he lovingly called,
"Come here, little girlie, come."
She started a moment as if to go—
The little feet longed to run.

"Come on! Come to papa." How nice to go!
'Twas a great temptation, you see.
Was not papa there with wide open arms?
Was it wrong? O, how could it be!

She stood but an instant as if in thought,
Then answered, in accents clear,
"I tant come; mamma said I could not,
I must stay and p'ay wight here."
Sparta, Ont.

A Gentle Hint.

Polish yourself up, madam; you had a pretty wit once, a pleasant laugh, a conversation that was not confined exclusively to the shortcomings of servants, the wrongdoings of tradesmen. My dear madam, we do not live on spotless linen and crumbless carpets. Hunt out that bundle of old letters you keep tied up in faded ribbon at the back of your bureau drawer—a pity you don't read them oftener! He did not enthuse about your cuffs and collars, gush over the neatness of your darning. It was your tangled hair he raved about, your sunny smile—we have not seen it for some years, madam—the fault of the cook and the butcher, I presume; your little hands, your rosebud mouth—it has lost its shape, madam, of late. Try a little less scolding of Mary Ann, and practice a laugh once a day; you might get back the dainty curves. It would be worth trying. It was a pretty mouth once.—(Jerome K. Jerome.)

Home.

A prize which was offered by a London paper for the best definition of a home brought about five thousand answers. Some of the best were the following:

"A world of strife shut out, a world of love shut in. Home is the blossom of which heaven is the fruit."

"The only spot on earth where the faults and failings of fallen humanity are hidden under the mantle of charity!"

"The father's kingdom, the children's paradise, the mother's world."

"Where you are treated best and grumble most."

Among the countless parodies of "Hiawatha" there is one which cleverly burlesques the tautological license of the poet:

He killed the noble Mudiokivis;
With the skin he made him mittens;
Made them with the fur side inside;
Made them with the skin side outside;
He, to get the warm side inside,
Put the inside skin side outside;
He, to get the cold side outside,
Put the warm side, fur side inside;
That's why he put the fur side inside,
Why he put the skin side outside,
Why he turned them inside outside.

—Bookman.

GOSSIP.

ROBERT MILLER'S SHORTHORN SALE.

A red-letter day in Shorthorn circles in Canada will be the 5th of February, the day following the annual meeting of the Dominion Shorthorn Association in Toronto, when Mr. Robert Miller, the honored president of that important organization, will, as advertised, offer at auction 45 head of high-class Scotch-bred Shorthorns, all imported or bred straight from the best of importations and most popular strains. The reduced railway fares to those attending the convention of breeders at Toronto on the 4th make the date most convenient and favorable for a large attendance at the sale, as Mr. Miller's farm at Stouffville is only 27 miles from Toronto, on the Midland division of the G. T. R.

The Millers were amongst the first, if not the very first, to import Shorthorns from Scotland to Canada, and for 66 years, without a break, the family, grandfather, father and son, have maintained an honorable record as breeders and a herd second to none on the American continent in high-class breeding and individual merit, many of the principal herds in the United States and Canada having been founded on selections from this herd, including those of Messrs. Cochrane, Edwards, Platt, and Cargill, the latter of whom started with the only cow that ever beat the famous Bow Park show cows, imported Havering Nonpareil, and Lady Isabel. This cow was bred by Mr. Miller, while such noted prize-winning and breeding bulls as Vice Consul, Salamis, Duke Lavender, Lord Strathallan, Crown Prince of Strathallan, Guardsman and Strathearn were imported or bred by Mr. Miller. Such a record entitles this sale to the favorable consideration of breeders all over this continent, since Mr. Miller is prepared to risk his reputation on the statement that no more richly-bred or better lot of breeding cattle individually has ever been offered at public sale in Canada than those included in the catalogue of this dispersion. Mr. Miller is only anxious that those interested in Shorthorns shall see the cattle sold, and is willing to be rated according to the standard of the offering.

The advance sheets of the catalogue show a list of young cows, heifers and bulls of a rich variety of the favorite families in the herds of the late Mr. Cruickshank, of Sittyton, and Mr. Campbell, of Kinellar, and in the herd of Mr. W. S. Marr, Uppermill, and other leading Aberdeenshire breeders, and includes typical representatives of Cruickshank Lovelys, Lavenders, Brawith Buds, Nonpareils, Butterlys, Village Girls, Broadhooks, and Duchesses of Gloster; Marr Missies, Princess Royals, Beautys, Roan Ladies, Claret, and Floras; 8 Kinellar Clarets, and Minas, and an imported Flower Girl, half-sister to one sold in the Canadian combination sale at Chicago last June for \$900, sired by the great bull, Nonpareil Squire, and in calf to the Cruickshank-Willis bull, Bapton Chancellor. No. 22 is a grand imported five-year-old Broadhook, a show cow, from one of the most valuable families in Scotland, estimated by the standard of value in the auction ring there, while they are also great prize-winners. She has a beautiful thick heifer calf by Cornelius, a full brother to the Highland Society champion, Corner Stone, and is again in calf to the Brawith Bud bull, No. 1 in catalogue, a son of Imp. Sittyton Stamp, and whose grandam was Imp. Golden Crest, bred by Amos Cruickshank. The first female in the catalogue is a three-year-old Cruickshank Flora, bred in Aberdeenshire, one of the families that have been breeding the bulls making the highest averages for Lord Lovat in the annual sales the past three years, and that produced for Mr. Duthie the calf that brought the record price of \$3,250 at his last October sale. No. 2 is a yearling heifer of the same family, sired by Cornelius, himself a prizewinner and own brother to the champion, Corner Stone. The Duchesses of Gloster descend from Imp. 12th Duchess, by the great Champion of England, and are a standard sort, highly esteemed wherever known, while the Village Blossoms, Nos. 6 and 7, are bred from the grand old Cruickshank cow of that name that has bred such a long list of prizewinners and champions. Space will not admit of reference to all, and there would be little object, since all interested may have the catalogue for the asking. The list of bulls includes the grand five-year-old Brawith Bud, Golden Crown (No. 1), one of the best of present-day sires. No. 2 is a Prince Royal, one of the great bulls of the year, recently imported, royally bred, as good as his breeding, having true form and first-class quality, and is considered one of the best that has ever been in the herd, which is saying a great deal. No. 3 is a pleasing roan Cruickshank Flora calf, pronounced by Mr. Marr the best calf he has seen in America. No. 4 is a thick red son of the grand old cow, Village Fairy, now in her 16th year. Royal Gloster is a red son of a fine Duchess of Gloster cow, No. 4 in catalogue. No. 6 is out of Imp. Lady Dorothy 42nd, and by a grand Cruickshank bull. No. 7 is a Nonpareil and as nice as is often seen.

It is now a long while since so good a lot of cattle have been offered for sale in Canada, and there is no prospect, so far as we can see, of another of the same character. Hence we confidently anticipate a grand rally of Shorthorn breeders and farmers interested in improving their stock at this sale at Burnbrae Farm on Feb. 5th.

The annual meeting of the National Lincoln Sheep Breeders' Association was held at Chicago, Dec. 3rd, 1901. The following officers were elected: President, John Geary, London, Ont.; Vice-President, Robert Knight, Marlette, Mich.; Secretary-Treasurer, Bert Smith, Charlotte, Mich. Directors—J. J. England, Caro, Mich.; Jno. T. Gibson, Denfield, Ont.; M. L. Wasson, Stockbridge, Mich.; Robt. S. Robson, Ilderton, Ont.; S. H. Warren, Ovid, Mich.; F. H. Neil, Lucan, Ont.

Mr. James Bowman, Guelph, Ont., breeder of Aberdeen-Angus cattle, calls attention to an error in the report of the cattle carcass competition at the International Live Stock Show at Chicago, in giving credit to the Michigan Agricultural College for the breeding and feeding of the Angus steer, Elm Park Lad, winner of first prize and championship in the block test, there over all breeds. This steer was bred by Mr. Bowman and fed by him up to June, 1901, on his Elm Park Farm, at Guelph.

The Clydesdale and Hackney stallions and mares advertised in this issue by Mr. O. Sorby, Guelph, Ont., will be found to be of the most desirable type, combining in high degree, size, action, quality and breeding of the best. The Clydesdale stallions have proven winners in hotly-contested competition at the leading shows in Canada, and are up-to-date in all respects, while the Hackneys are of as high-class character of their breed. Parties looking for such stock should write Mr. Sorby, or better, see his horses, which will bear the closest scrutiny.

W. G. Pettit & Son, Freeman, Ont., report the following recent sales of Shorthorns and Shropshires: To James Haryett, Maynooth, Ont., one yearling ram and four yearling ewes; to W. G. Sanders, St. Thomas, Ont., the imported yearling bull, Scottish Rex, bred by Alex. Campbell, Deystone, Aberdeen, Scotland, got by Count Amaranth, of same family as the great show and breeding bull, Field Marshal, to L. G. Harris, Canning, N. S., the imported bull, Scottish Knight, bred by John Young, Telbournies, Aberdeen, Scotland, got by Scottish Prince, of the popular Princess Royal family, out of Fanny 4th, of the noted Jilt family; to W. E. Alton, Nelson, Ont., the yearling imp. bull, County Duke, bred by Alex. Campbell, Aberdeen, Scotland. This young bull belongs to the noted Campbell Claret family that was very popular with the late Sylvester Campbell, of Kinellar. He was got by Count Amaranth, out of County Maid, by that great Cruickshank sire, Clan Alpine. To Andrew Robb, Newry, Ont., one home-bred cow, Fidget 3rd, a great milker and grand breeder. She is forward in calf to our imp. stock bull, Scottish Pride, a Cruickshank Clipper by the noted sire, Star of Morning. Messrs. Pettit write: "We have still on hand for sale four imported bulls, one and two years old; five imported in dam, 12 to 15 months old, and 10 home-bred bulls, from 9 to 16 months, got by imported bulls and mostly from imported cows of the most popular Scotch families. We are issuing a new catalogue which will be ready to mail about the last week in January, giving full particulars of our young stock. We will be pleased to mail them to interested breeders."

WOVEN-WIRE FENCING.—Every farmer knows the advantages and economy of a good, heavily-galvanized steel-wire fence, but there is a surprising large number who do not know that improved machinery has made it possible to buy the best kind of a wire fence in a roll, already woven, ready to stretch and staple to the posts. The drawback to wire fences has been the expense and trouble of building them, and since this has been overcome, the use of steel-wire fences has increased at a wonderful rate in every part of the country, on the farms of the East and the ranches of the West. One of the most desirable and all-round useful forms of ready-woven wire fence is known as the Ellwood Steel Wire Fence. It has heavy cables, between which are diamond-shaped meshes, smaller toward the ground, larger toward the top. This form of construction holds poultry perfectly and economizes on wire in the top meshes, where strength is needed, but where a close mesh would serve no good purpose. There are dealers handling this fence in almost every town in the country, and it should not be overlooked by anyone interested in good fences at low prices.

INNIS BROS., OF WOODSTOCK, ONT., have purchased from Dalgety Bros., Dundee, Scotland, and London, Ont., Clydesdale importers, the good colt, Yarbent (11234). He is rising three years and a great colt, having size, style and action, and combines the blood of the two greatest families known to Clyde breeders, viz., Darnley (222) and Prince of Wales (673), being sired by that noted sire, Prince of Brunstane (9977), the sire of the champion two-year-old stallion, Marmion, that was first and champion at the West of Scotland Union Agricultural Society's Show held at Barrhead, Oct. 17th. A yearling gelding got by him was sold the same day for £100, being the record price for a gelding of his age. We hope the Innis Bros. will get the liberal patronage they so richly deserve, as they have spared no money in selecting a good sire for Oxford County.

Twelve head of registered Shorthorns, 8 females of good milking strain and 4 bulls, are advertised in this issue to be sold at auction, on Feb. 12th, by Mr. D. Baigent, Thamsford, Ont., at his farm, two miles from Thamsford station, on the C. P. R., and 14 miles from the City of London.

Mr. James Walsham, breeder of Jersey cattle, of Portage la Prairie, Manitoba, purchased from Messrs. B. H. Bull & Son, of Brampton, Ont., Brampton Gold Prince, the first-prize bull calf under six months at Toronto and Ottawa in 1901. Mr. Walsham writes: "The bull, Brampton Gold Prince, arrived O. K. I have looked him over and like him well. He is one of the finest bulls that I ever saw."

The noted imported Island-bred Jersey bull, Distinction's Golden, is advertised for sale in this issue by Mr. Robert Davies, Todmorden, Toronto. This bull has been the chief sire in Mr. Davies' herd of Jerseys at Thorncliffe farm for the last four years, and he has made his mark indelibly on his progeny, the females of which especially uniformly show superior dairy form and characteristics, his get having for three years won the first prize for the best progeny of one sire at the Toronto Industrial Exhibition in keen competition. Distinction's Golden is deeply-bred in the blood of the famous Island bull, Golden Lad, and is distinctly of the modern Island type—handsome, stylish and fine, yet strong, rugged, vigorous, deep-ribbed, and full of spirit, yet docile and tractable. He is in the prime of life, and his offspring have improved with his years. He is a bull that should improve any herd in the country and give satisfaction in every respect.

The survival of the fittest is well exemplified in the splendid herd of Shorthorn cattle and flocks of Cotswold and Shropshire sheep owned by the estate of the late Joseph Bell, on the Cedars Stock Farm, which is situated in the County of Simcoe, about three miles west of the town of Bradford, which is the firm's P. O. and R. R. station. It is doubtful if there was a man in Canada that better understood the inborn characteristics of Shorthorns than the late Mr. Bell, and during his long experience in the breeding and care of this breed of cattle he continuously brought his good judgment into action in the selection of the sires he used on his herd and in the weeding-out of the inferior ones, and to-day his careful selection and good taste is amply demonstrated in the rare good animals that can be seen on the farm. The dams generally are a big, broad-backed, fleshy, short-legged kind, sired by the following well-known bulls: Baron of Manchester, sired by Imp. Vensgarth 47192; Brilliant 15824, by Imp. Mexico 4114; Duke of Cedardale 19666, by Imp. Hopeful 15278; Aberdeen Jock 24503, by Imp. Aberdeen 18949; Ronald 25325, by Imp. Kinellar Sort 18957. The present stock bull is Heir at Law 34563, sired by Prince Arthur 23377; dam Myra's Lily 22014. He is a beautiful roan, two years old, weighs 1,700 pounds, and is one of the low, short-legged kind, with his flesh evenly distributed, and is quality from the ground up. The young things in the stables from him are certainly a splendid lot and show that no mistake was made when he was selected to head the herd. The families principally represented among the dams are the Countess, Duchess, Stamford and Strawberry. The Stamfords are well represented in the cow, Stamford Jewel 22681, sired by Imp. Hopeful. She is a typical Shorthorn, and one of the big, broad sort that everybody is looking after. The Strawberrys are represented by the cow, Juno, by Aurora Borealis 20354. She is another slashing, big, well-balanced animal. The Duchess family is represented by Zephyr Beauty, a roan that is hard to beat. The Countess family is represented by the grandly-built cow, Estella. There are a number of others that are every whit as good as those mentioned. Among the younger ones are about a dozen heifers, some with calves, others carrying their first calf, and others not bred. They are the right sort, showing a depth of body and symmetry of make-up that develops into the good ones. There are about 25 head in the herd of both sexes and all ages, and there are no "keep" ones among them, any or all of them are for sale, they Messrs. Bell believing that the nimble sixpence is more profitable than the slow shilling. The Shropshires are of the well-known Campbell breeding, and are a rare good lot and extra well covered. The Cotswolds are imported and home-bred, a part of them being from the well-known Bostwick flock. As with the Shrops, so with the Cotswolds, they are a splendid lot, and can be bought worth the money.

LIVE STOCK MEETINGS. Toronto, first week in February, 1902. Feb. 3.—Monday—2 p. m., Hackney Horse Society, Albion Hotel; 7.30 p. m., Directors Shorthorn Association, Albion Hotel. Feb. 4.—Tuesday—11 a. m. and 2 p. m., Dominion Shorthorn Breeders' Association, Richmond Hall, 27 Richmond St., West. Feb. 5.—Wednesday—11 a. m., Directors Ayrshire Association, and 2 p. m., Ayrshire annual meeting, Richmond Hall, 27 Richmond St., W.; 7.30 p. m., Carriage and Saddle Horse Association, Albion Hotel. Feb. 6.—Thursday—10.30 a. m., Shire Horse Association, Albion Hotel; 2 p. m., Horse Breeders' Association; evening, dinner, if any.

Horse Owners Should Use GOMBAULT'S Caustic Balsam The Great French Veterinary Remedy. A SAFE, SPEEDY AND POSITIVE CURE. Prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud. SUPERSEDES ALL CAUTERY OR FIRING Impossible to produce any scar or blemish. The safest best Blister ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle. As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, Etc., it is invaluable. WE GUARANTEE CAUSTIC BALSAM will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio

SHIP YOUR FURS TO McMillan Fur & Wool Co. MINNEAPOLIS, MINN. WRITE FOR CIRCULARS

Something Worth Considering. The attention of the readers of the "Farmer's Advocate" is called to what the London dailies of recent date have to say of a New Monetary Institution: "We are pleased to learn that of the many excellent and successful Monetary Institutions that have been organized in this city, the latest, 'THE EMPIRE ACCIDENT AND SURETY COMPANY,' bids fair to equal, if not excel, any of its predecessors. We also observe per Stratford and St. Thomas dailies of recent date, notice of the appointment of Nelson Monteith, Esq., M. P. P., of Stratford, and Dr. Lawrence, Esq., of St. Thomas, to positions on the Board of Directors. We must congratulate our fellow-townsmen who are on the directorate in having associated with them gentlemen of such undoubted ability and influence. It is quite evident, from the rapid strides made since its inception, that it is destined to become in the near future one of the Giants among the many Monetary Institutions of this city and of the Dominion. Its stock must prove one of the safest and most profitable and permanent investments to be found, and investors must act promptly if they wish to secure some of it." On its list of shareholders are the names of leading agriculturists, members of Parliament, doctors, lawyers, clergymen, merchants, mechanics, and others, not from one section of the Province only, but from all sections. This is an exceptional opportunity offered our farming friends and others having leisure time during the winter, season of earning a few hundred dollars with but little effort or expense. Facts can be cited in almost every city and town in this Province where holders of stock of companies similar to this company have, after the lapse of a few years, sold it for three and four times its original cost, thus realizing thousands of dollars on original investment, and the prospects for this company repeating what has been done heretofore by similar companies is certainly brighter and more promising. If you have not already done so, it will pay you to write to the Manager or Secretary of THE EMPIRE ACCIDENT AND SURETY COMPANY, Masonic Temple, London, Ontario, for prospectus and full particulars. Enterprising and energetic men are wanted to handle this stock. \$9,000 FOR A HEREFORD BULL. At the dispersion sale, at Chicago, on Jan. 7th, of the herd of Hereford cattle belonging to Mr. Thos. Clark, of Beecher, Ill., the three-year-old bull, Perfection, champion at International Show, 1901, was sold to G. H. Hoxie, Thoron, Ill., for \$9,000. The highest-priced female was Polly Peachem, sold at \$900. The average for females was \$388, and the average for all Mr. Clark's herd, \$507. At the close of the sale it was announced that Mr. Clem Davis had sold his bull, Dale, the sire of Perfection, to Jesse Adams, Moweaqua, Ill., for \$10,000, which is the highest price ever paid for a Hereford bull.

GOSSIP.

Live Stock Association Meetings.

The annual meetings of the following associations will be held at the Palmer House, Toronto: Dominion Cattle Breeders' Association, January 23rd, at 1.30 p. m.; Dominion Sheep Breeders' Association, January 24th, at 9.30 a. m.; Dominion Swine Breeders' Association, January 24th, at 1.30 p. m.; Board of Provincial Winter Fair, appointed at above meetings, January 24th, at 7.30 p. m.

A. P. WESTERVELT, Secy.

The 16th annual meeting of the Dominion Shorthorn Breeders' Association, for the report of business done, the election of officers, and transaction of new business, will be held at Richmond Hall, 27 Richmond St. West, Toronto, Ont., on Tuesday, February 4th, at 11 a. m. Ask for standard certificate at your station to attend live-stock convention before leaving, to entitle you to reduced fare home.

HENRY WADE, Secy.

Cotswold Breeders Meet.

At the recent meeting of the American Cotswold Association the Treasurer reported a balance on hand of \$742.06. Officers were elected as follows: President, David McCrae, Guelph, O.; Vice-President, D. B. Watt, Xenia, O.; Secretaries and Treasurers, George Harding & Son, Waukesha, Wis.; Directors—D. McCrae, D. B. Watt, S. Bennington, Jr., Volga, Ia.; Geo. Harding and F. W. Harding, Auditing Committee—W. W. Birch, Chicago, and one other, to be elected by Board of Directors. A resolution was adopted to the effect that for 1902 special premiums at various State and Provincial fairs can only be competed for by sheep recorded in the American Cotswold Record and owned in the American Cotswold where such prizes are offered. D. McCrae, D. B. Watt and F. W. Harding were elected delegates to make recommendation for director of live stock at St. Louis World's Fair, 1903, and confer on matters pertaining to Cotswold sheep.

Canadian Jersey Cattle Club.

The annual meeting of the Canadian Jersey Cattle Club was held in the Walker House, Toronto, December 31st. There were present about 35 breeders from various parts of the Province, who showed a deep interest in the proceedings. Mr. R. J. Fleming, Toronto, presided, and in his opening remarks referred feelingly to the great loss the club had sustained during the past year in the removal by death of the President, the late Capt. William Rolph; the Chairman of the Board of Directors, Mr. W. E. H. Massey, and Mr. Everett N. Fleming, all deeply interested in and enthusiastic admirers of the dairy queen. The year has been a favorable one for the Jersey breed. The demand for cows for family use is on the increase, and the cream trade of all our large towns and cities is now largely in the hands of Jersey breeders. Prices are somewhat higher than a year ago, and, taking everything into consideration, the breeders of Jersey cattle are to be congratulated on the good showing of their favorite breed during the year and the outlook for the future.

A committee, consisting of the Secretary and Mr. W. P. Bull, B. A., LL. B., solicitor, was appointed to draft resolutions of condolence, have them engrossed and forwarded to the families of deceased members.

The Treasurer's report was read, showing a small balance on hand.

Mr. F. W. Hodson, Dominion Live Stock Commissioner, was present and addressed the meeting on the Pan-American so-called "model dairy" and the part played by the Canadian representatives.

Messrs. Robert Davies and the President were appointed to wait on both the Provincial and Dominion Governments to urge them to give the same assistance to Canadian live stock at the St. Louis Exhibition in 1903 as they gave to those exhibiting at Chicago and Buffalo.

The question of asking the railroads to grant passes to judges of live stock at our exhibitions was left for the Board of Directors to take action.

It was decided to alter the constitution to admit of a 2nd vice-president being appointed. The question of having the herds judged last instead of first was brought up and discussed, many breeders advocating the old plan of judging them last; others spoke strongly in favor of the present method. However, it was decided to ask the directors of the Toronto Industrial to have the herds judged last, and that all herds entered and on the grounds be brought out for exhibition.

On the kind invitation of Messrs. Bull & Son, the Club will hold a social gathering at the home of the Brampton firm about the middle of June.

Officers for 1902:—President, R. J. Fleming, Toronto; 1st Vice-President, D. O. Bull, Brampton; 2nd Vice-President, D. Duncan, Don; Secy., Treasurer, R. Reid, Berlin. Board of Directors—Messrs. F. L. Green, R. McCulloch, H. C. Clarridge, George Davies, H. G. Clark, Representatives on Fair Boards—Toronto, D. Duncan and B. H. Bull; London, John O'Brien and J. A. Lawson; Ottawa, W. Conroy and W. W. Wright; Winnipeg, J. Edwards and James Wislamb; Quebec, J. P. Dawes and Lieut. Col. Ashmead. Dominion Cattle Breeders' Association—R. McCulloch and Thompson Porter, Judges—Toronto, J. C. Snell and H. G. Clark; with R. Reid as reserve; London, H. C. Clarridge and George Latsch; Winnipeg, David Duncan; Ottawa, L. J. C. Bull; Halifax and Quebec, J. H. Smith; Woodbridge, A. E. Jackson; Brampton, R. Willis.

The British Royal Commission on Tuberculosis, who have accepted Sir James Blyth's generous offer to place at their disposal for experimental purposes two of his farms at Stansted, Essex, will commence work there early in the year, the necessary structural alterations are now being in hand. The Commission is the outcome of a statement made by Prof. Koch at the International Congress on Tuberculosis held in London last summer, that human and bovine tuberculosis are two totally different diseases. The experiments which it is intended to carry out at these Essex farms are expected to occupy about two years, and will extend over a very wide range, and, in addition to all kinds of bovine animals, will include several other species.

GOSSIP.

We again direct attention to the auction sale of pure-bred stock—Short-horn cattle, Cotswold sheep, German Coach fillies, and Berkshire sows—advertised by Mr. Chas. Youngs, Brookdale, Ont., near Stratford, G. T. R., on Wednesday, Jan. 29th. There are about 40 head of useful Shorthorns, 26 females and 5 bulls, besides calves, included in the sale. The stock is said to be in fair condition. The catalogue has not reached us at this writing, but will be sent on application, and this should afford an opportunity to secure useful stock at reasonable prices. See the advertisement, and be governed accordingly.

Mr. Isaac Usher, proprietor of the Queenston cement works, at Queenston, writes: "During the spring and summer months of the past two years our output of cement has been entirely too small to fill promptly all the exceedingly large number of orders received. Now, I wish to be able to fill all orders in future, and to do this it will be necessary to get the mills in operation as early as possible. As an inducement for customers to get their cement in the winter, I will allow a discount of seven and one half cents per barrel for cash on all cement delivered by March 15th, 1902. This will be an important item for all who take advantage of it, and all will readily understand that prompt shipments during the whole season will be much more satisfactory for all concerned. Customers may be assured that cement stored from two to twelve months in dry places will give better results in concrete work than cement that is fresh and warm from the mill. With good clean gravel and concrete properly mixed and rammed, I will guarantee the Queenston cement to be as good as any of the Portland only it sets slower and must have a little longer time in the work. A barrel of Queenston cement contains just as many cubic inches of cement as any barrel of Portland, though it weighs less, and cement being gauged by measure, not by weight, a barrel of Queenston cement will go just as far as a barrel of Portland gauged in the same proportions. Queenston cement concrete is guaranteed where clean gravel is used and properly mixed and rammed."

MORE CLYDESDALES FOR CANADA.

Messrs. Dalgety Brothers, says the Scottish Farmer, "have recently shipped five well-bred Clydesdale stallions to James Dalgety, London, Canada. Two they purchased from Mr. Peter Crawford, Dargavel, Dumfries; two from Mr. James Drummond, Pitcorchie, Dumfries; and one from Mr. Scott, Bogie, Kirkcaldy. These are useful, thick horses of superior breeding and pedigree. Mr. Thomas Smith, Blaen Point, Chester, has sold the two choicest-bred horses, Chester Prince (11008) and Village Boss (11226) to Messrs. Bowden & McDonel, Exeter, Ont. These horses were both bred by Mr. Smith, and are superior animals. Both were got by the big, powerful, brown horse, Prince Pleasing (10259), a horse of great weight and substance, with a remarkable record in the showing. The dam of Chester Prince was the well-bred mare Red Rose (12663), by Macgregor (1487), from a good-breeding mare by the Stewarty premium horse, Scots Wha Hae (4006). The dam of Village Boss was that noted prize mare, Baroness (13609), bred at Springfield, and got by The Summit (9442), out of the dam of the champion Baron's Pride (9122). These horses should do good service in Canada."

MARITIME BREEDERS' ASSOCIATION.

At the annual meeting held at Amherst, after discussing the Winter Fair and its improvement, officers were elected as follows:

President, E. B. Eldrkin. Vice-Presidents: For New Brunswick, Col. K. M. Campbell, Sussex; for Nova Scotia, C. A. Archibald, Amherst; for P. E. Island, J. W. Calbeck, Augustine Cove. Executive Committee: From New Brunswick—M. H. Parlee, Sussex; Bliss Fawcett, Sackville; J. F. Frost, Hampton. From P. E. Island—John Richards, Biddeford; F. L. Haszard, Charlottetown; J. C. Irving, Vernon River. From Nova Scotia—E. S. Black, W. W. Black, Amherst; F. L. Fuller, Truro. R. Robertson, Nappan, and J. R. Starr, Starr's Point, were elected auditors. Representatives to Exhibition Boards: For New Brunswick, H. M. Parlee and J. F. Frost; P. E. I., F. L. Haszard and Matthew Smith, M. L. A.; N. S., W. W. Black and C. A. Archibald.

It was decided to hold another Winter Fair next season.

NOTICE.

The Estate of John Battle, manufacturers of the well and widely known Thorold cement, report having closed a good year's business, and already have booked a large number of orders for this year. Many farmers are taking advantage of the good sleighing to team their cement and gravel, and also of the special terms of payment the firm offer for winter shipments. Judging from the large number of enquiries, many cement silos will be built during the year 1902. The Battle firm would be glad to correspond with farmers or others, where they are not at present represented, who might desire to take a sales agency for their Thorold cement, for the year 1902, and also to send a free pamphlet to anyone who will write for the same.

TROUT CREEK HERD OF Shorthorns

Won first prize for herd and the championship for best bull and best female, any age, at Toronto Industrial and Pan-American Exhibitions, 1901. We keep constantly in our herd a choice lot of imported and Canadian-bred cattle of both sexes. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains if notice is given. Visitors always welcome. Address:

JAMES SMITH,
Manager,
MILLGROVE, ONT.

W. D. FLATT,
378 HESS ST., SOUTH,
Hamilton, Ontario.

Government Approval of the Spramotor.

The following extracts will show how the Spramotor is regarded by some of the leading Government officials. They have purchased the Spramotor only after making elaborate and exhaustive tests. These facts should mean something to you. Profit by the experience of others:—

ONTARIO. This is to certify that at the contest of Spraying apparatus held at Grimsby, under the auspices of the Board of Control of the Fruit Experimental Station of Ontario, in which there were eleven contestants, the Spramotor Co., of London, Ont., was awarded first place.

H. L. HUIT & M. PETIT, Judges.
Dept. of Agriculture, Toronto.

I have great pleasure in stating that the Spramotor ordered from your Company has given entire satisfaction.

JOHN DRYDEN, Minister of Agriculture.

The London Spramotor combination is the only reliable pump I know for applying mechanical mixtures.

GEORGE E. FISHER,
Chief Inspector, San Jose Scale Investigation.

Dept. of Agriculture, Ottawa.

I used your Spramotor in my apple orchard of 1600 trees. It is easy to handle and perfect in action. I never had my orchard looking cleaner than at the end of last season.

GEORGE JOHNSON.

Cattle Quarantine Station, Quebec.

I have much pleasure to inform you that the outfit bought from you for disinfecting is giving us the greatest satisfaction.

J. A. COUTURE, D.V.S., Inspector.

RUSSIA. I have the honor to apply to you for five Spramotor machines of the same size, No. 1-D, and one Spramotor Knapsack. I remain, gentlemen,

Your obedient servant, NICKOLAS KRUKOFF
Representative of the Ministry of Agriculture, Russia.

Write a postal card with your address to
THE SPRAMOTOR CO.,
LONDON, ONT.

And they will send you a complete treatise on Spraying and full particulars regarding their Spraying Machines.

CATTLE TESTING.

The Dominion Department of Agriculture has issued a circular stating that experience has shown it to be undesirable, for many reasons, to test dairy cattle with tuberculin from March 1st to October 1st. Those advanced in pregnancy cannot be safely tested, and the removal of animals from field to stable, flies, heat, etc., make the test unreliable. The Department, therefore, will not undertake tests during the period mentioned for dairymen or others. Applications must be made to the Department at Ottawa direct. The following is the complete list of official veterinarians appointed to test (at any time) breeding cattle intended for export to the United States:—

Prince Edward Island—W. H. Pethick, V. S., Central Bedouque.

Nova Scotia—William Jakeman, D. V., S., Halifax.

New Brunswick—J. H. Frink, V. S., St. John.

Quebec—J. A. Couture, D. V. S., Quebec; V. T. Daubigny, D. V. S., Montreal; A. E. Moore, D. V. S., Montreal; C. H. Higgins, D. V. S., Montreal.

Ontario—Wm. Stubbs, V. S., Toronto; J. H. Tennent, V. S., London; Geo. H. Higginson, V. S., Rockland.

Manitoba—Chas. H. Little, V. S., Winnipeg.

Northwest Territories—J. C. Hargrave, D. V. S., Medicine Hat.

British Columbia—J. B. Hart, D. V. S., Vancouver.

WANTED THOROUGHbred BULLS. The Raleigh Agricultural Society wish to purchase three or four yearling thoroughbred Durham bulls, pedigreed. Parties having the same to dispose of, please address S. L. WELLWOOD, MERRIS, ONT., describing animals and prices. A. B. WHITE, Chatham, Ont., Secretary Raleigh Agricultural Society.

FOR SALE ABERDEEN-ANGUS BULL. A choice Aberdeen-Angus Bull. Nine months old. Sire Fairy Prince No. 307, dam Kyma 2nd O. E. F. No. 123. For particulars apply or come and see. J. N. J. BELL, G. T. R. station, Elmvalle, Ont. Waverley P. O.

Mercer's Shorthorns for Sale

BULLS and heifers from such families as Matchless, Clares, Missies, Stamfords, Fashions, other choice families. Herd headed by Village Squire =21903= (the by Abbottford), assisted by a son of Old Royal Sailor (imp.). Cows and heifers in calf. Four nice young bulls. Our herd stands at the head of the show-ring in this northern country. Over 40 head now in the herd. Intending visitors drop a card and they will be met at the C. P. R. station, Markdale, one mile from farm. Write for prices. No business, no harm. Our motto: "The best is none too good."

THOS. MERCER, MARKDALE, ONT.

Our customers say that the King Washer is the best.

Before buying a washer, get prices of King Washer. We have agents in nearly every city, town and village in Canada handling our goods. If your dealer does not handle them, write direct to us for particulars. H. A. CLEMENS & Co., GUELPH, ONT.



T. DOUGLAS & SONS, STRATHROY, ONT.

Scotch Shorthorns.

100 HEAD TO SELECT FROM. Offer for sale 20 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee =28861=, at head of herd. Farm one mile north of town.

ABERDEEN-ANGUS CATTLE.

The breed that won the grand championship over all beef breeds, alive and dressed, at Smithfield (London, England) Show, 1901, and grand championship over all breeds and crosses in the carcass competition at the International Show, Chicago, and the Ontario Provincial Winter Fair, 1901. The steer, Elm Park Lad, grand champion carcass at Chicago, was bred and fed by me till June, 1901, and the grade Angus steer winning grand sweepstakes in dressed carcass class at Guelph was fed and exhibited by me. Kyma's Heir, champion bull 1 year at Toronto heads my herd. Young bulls, cows and heifers for sale. Also high-class Barred Plymouth fowl.

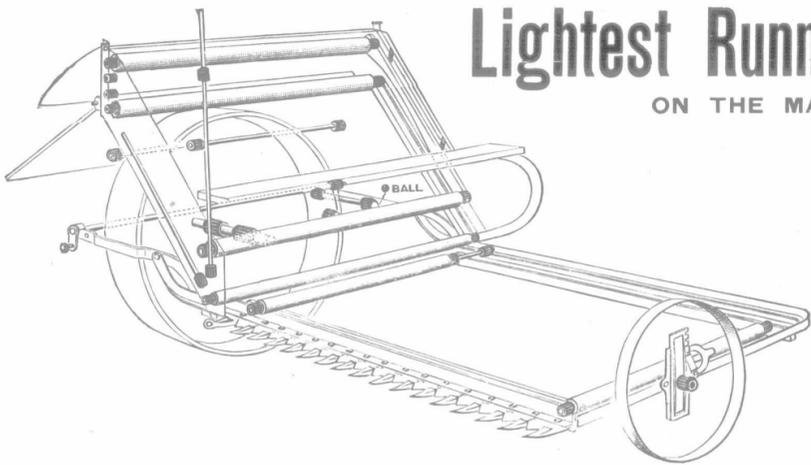
JAMES BOWMAN, Guelph, Ontario.

Elm Park Farm.

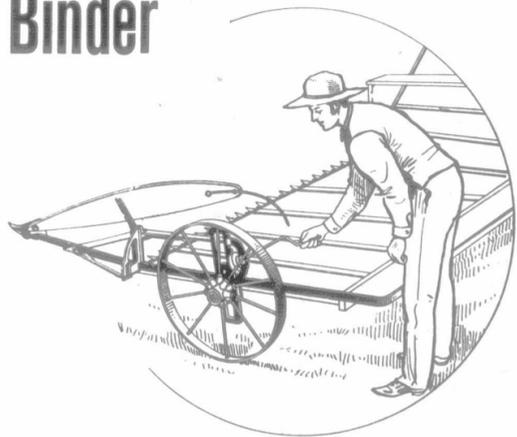
Mr. Geo. Isaac, of Bonanton, Ontario, shipped recently from Glasgow a very good consignment of twenty-four Shorthorns, bought in the north of Scotland through Mr. S. Campbell, Kinellar. The bulk of the consignment were yearling five and heifer calves. Of the lot, Heatherwick, Inverurie; four by Colonel McRae, Clunes, Inverness; three by Mr. A. Campbell, Doystone; three by Mr. J. W. Gordon, Oswald, Beaulieu; five by Mr. John Gray, Keith; three by Mr. D. C. Morris, Amster; and one by Mr. Campbell himself. The cattle were a very superior lot representing some of the best strains in the country.

Massey-Harris Light-Running No. 4 Binder

THE
Lightest Running Binder
ON THE MARKET.



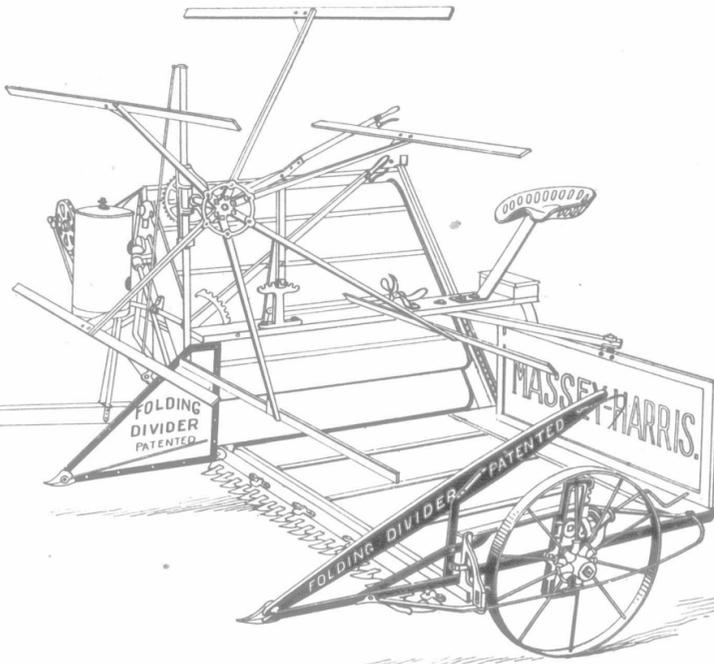
Roller Bearings wherever they will reduce friction.



The platform can be raised at either end, VERY EASILY.

THE
MASSEY-HARRIS

Light-Running
No. 4
Binder



Scientifically
Constructed.

THOUSANDS IN
USE IN CANADA
ALONE.....

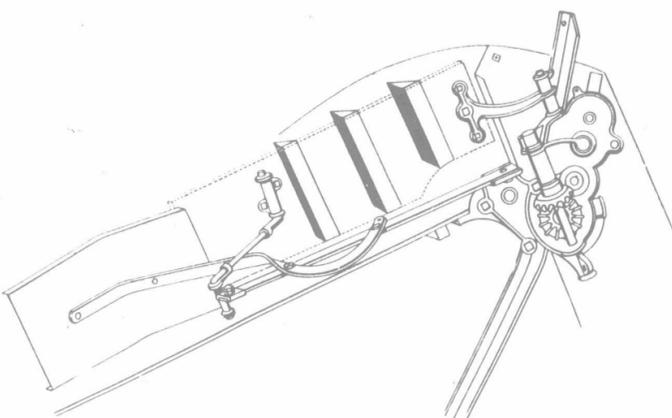
THE WORLD'S

**Most Progressive
Farmers**

USE ONLY THE

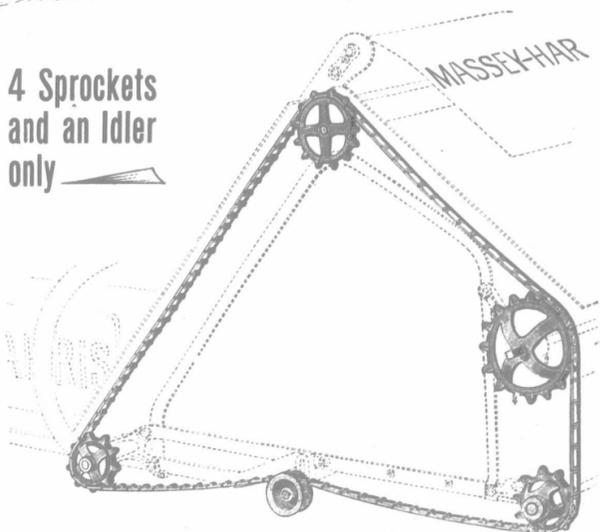
MASSEY-HARRIS

**PLAY FOR
TWO HORSES**



Butter Board on the Massey-Harris Light-Running No. 4 Binder.

4 Sprockets
and an Idler
only



Chain Drive on Massey-Harris Light-Running No. 4 Binder.

Premium Announcement

EXACT SIZE OF KNIFE.



An A1 Farmer's Knife

DIRECT FROM SHEFFIELD, ENGLAND.

**FINEST STEEL BLADES. STRONG AND DURABLE.
BEAUTIFUL NICKEL HANDLE.**

Specially selected and ordered by the Manager of the ADVOCATE when in England last summer.

Cannot be Duplicated.

Every farmer and farmer's son should have one of these knives

START OUT FOR THE NAMES TO-DAY.

How to Secure It.

SEND
New Subscribers **2** New Subscribers

TO THE
FARMER'S ADVOCATE

And we will send you the knife, postpaid.



Winnipeg Heater.

We have made most favorable terms with the Winnipeg Heater Co. whereby we can give one of these celebrated heaters to anyone sending us ten new subscribers to the FARMER'S ADVOCATE, accompanied by \$10.00.

IT SAVES FUEL AND LABOR. IT STOPS COLD DRAFTS. IT DOES NOT MAKE DUST OR DIRT. IT DOES NOT OBSTRUCT THE DRAFT. IT TAKES THE COLD AIR FROM THE FLOOR. IT PRODUCES COMPLETE COMBUSTION. ATTACHABLE TO ALL KINDS OF STOVES, GRATES, FURNACES AND GAS BURNERS. DETACHABLE AND EASY TO CLEAN. OCCUPIES LITTLE SPACE, AND HAS A TIDY APPEARANCE.

The heater can be put in an adjoining room, on the same level as the cooking range, baseburner or fireplace, and heats with perfect success. Hot air passes from the top to the bottom, and returns up into the pipe above, thus heating the room to the very floor, which is not done by any other heater. Price in the ordinary way is \$10.00, but we offer it for sending us 10 new yearly subscribers.

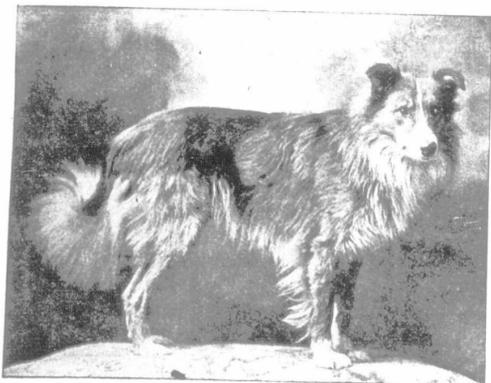
Heaters are sent by express from the factory, Preston, Ont.

BEGIN TO CANVASS AT ONCE

FOR NEW SUBSCRIBERS. The Christmas number for 1901 will be sent FREE to all who now subscribe for 1902. Subscription Price, \$1.00 per Annum.

How to Get a

FIRST-CLASS COLLIE.



Twelve New Subscribers.

TO ANY SUBSCRIBER sending us the names of 12 NEW yearly paid-up Subscribers we offer a young COLLIE, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States.

THE BIG FOUR

THE GREAT PREMIUM PICTURE OFFER, FOR OBTAINING NEW SUBSCRIBERS TO THE "FARMER'S ADVOCATE" AT \$1 A YEAR.

- "CANADA'S IDEAL" Admitted by judges, breeders and artists to be the most magnificent engraving of high-class modern Shorthorns ever issued in any country. 21 x 36 inches. Twelve animals.
- "CANADA'S PRIDE" Nine celebrated draft horses. Your choice of any two of these for 1 new subscriber, or all four beautiful pictures for only 2 new subscribers.
- "CANADA'S GLORY" Eleven celebrated light horses.
- "CANADA'S COLUMBIAN VICTORS" Thirteen celebrated Ayrshire cattle.

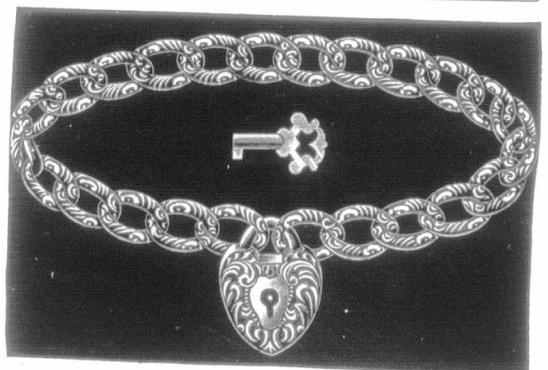
Bagster's NEW COMPREHENSIVE Teacher's Bible,

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

HOW TO OBTAIN IT—

Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

Handsome Curb-link Bracelet: Silver Filled



For 2 new subscribers. Sterling silver for 3 new subscribers. For each additional new subscriber, two Sterling Silver Friendship Hearts.

Our Self-Binder

HANDY, DURABLE and ATTRACTIVE. Made to contain the 24 issues of the year. We will forward this Binder, postpaid, to anyone sending us the names of TWO NEW SUBSCRIBERS and \$2.00.

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums. Cash must accompany new names.
THE WM. WELD CO., LTD., LONDON, ONT.

FARM BOOKS.

The farmer's home without an Agricultural Library is lacking in one of the chief aids to pleasure and success. We have gone over the available first-class works on agricultural subjects, and have selected the best. See below for prices and how to obtain.

SOIL AND CROP.

- THE FERTILITY OF THE LAND.—*Roberts*. 372 pages. \$1.25.
- A BOOK ON SILAGE.—*Woll*. 185 pages. \$1.00.
- SOILING, ENSILAGE, AND BARN CONSTRUCTION.—*F.S. Peer*. 247 pages. \$1.00.
- SOILING CROPS AND THE SILO.—*Shaw*. 366 pages. \$1.50.

LIVE STOCK.

- VETERINARY ELEMENTS.—*A. G. Hopkins, B. Agr., D. V. M.* \$1.50. A practical book for stockmen and agricultural students.
- THE STUDY OF BREEDS (CATTLE, SHEEP, AND SWINE).—*Prof. Shaw*. 400 pages; 60 engravings. \$1.50.
- HORSE BREEDING.—*Sanders*. 422 pages. \$1.50.
- LIGHT HORSES—BREEDS AND MANAGEMENT. 226 pages. \$1.00.
- HEAVY HORSES—BREEDS AND MANAGEMENT. 219 pages. \$1.00.
- CATTLE—BREEDS AND MANAGEMENT. 270 pages. \$1.00.
- SHEEP—BREEDS AND MANAGEMENT. 232 pages. \$1.00.
- ANIMAL BREEDING.—*Shaw*. 406 pages. \$1.50.
- THE DOMESTIC SHEEP.—*Stewart*. 371 pages. \$1.75.
- THE SHEEP.—*Rushworth*. 496 pages. \$1.50.
- PIGS—BREEDS AND MANAGEMENT.—*Sanders Spencer*. 175 pages. \$1.00.
- FEEDS AND FEEDING.—*Henry*. 600 pages. \$2.00.

Vinton Series.

GENERAL AGRICULTURE.

- AGRICULTURE.—*C. C. James*. 200 pages. 30 cents.
- FIRST PRINCIPLES OF AGRICULTURE.—*Voorhees*. 207 pages. \$1.00.
- AGRICULTURE.—*Storer*. 1,875 pages, in three volumes. \$6.00.
- CHEMISTRY OF THE FARM.—*Warrington*. 183 pages. 90 cents.
- FARMYARD MANURE.—*Altman*. 65 pages. 50 cents.
- IRRIGATION FOR THE FARM GARDEN AND ORCHARD.—*Henry Stewart*. 1.00.
- SUCCESSFUL FARMING.—*Rennie*. 300 pages. \$1.50, postpaid.

DAIRYING.

- AMERICAN DAIRYING.—*H. B. Gurler*. 262 pages. \$1.00.
- THE BOOK OF THE DAIRY.—*Fleischmann*. 330 pages. \$2.75.
- MILK AND ITS PRODUCTS.—*Wing*. 230 pages. \$1.00.
- TESTING MILK AND ITS PRODUCTS.—*Farrington & Woll*. 255 pages. \$1.00.
- DAIRYING FOR PROFIT.—*Mrs. E. M. Jones*. 50 cents.

POULTRY.

- FARM POULTRY.—*Watson*. 341 pages. \$1.25.
- ARTIFICIAL INCUBATING AND BROODING.—*Cypher*. 146 pages. 50 cents.
- PRACTICAL POULTRY-KEEPER.—*Wright*. \$2.00.
- AMERICAN STANDARD OF PERFECTION.—*Pierce*. 278 pages. \$1.00.

APIARY.

- THE HONEYBEE.—*Langstroth*. 521 pages. \$1.50.

FRUIT, FLOWERS, AND VEGETABLES.

- VEGETABLE GARDENING.—*Green*. 224 pages. \$1.25.
- FLOWERS AND HOW TO GROW THEM.—*Rexford*. 175 pages. 50 cents.
- THE PRINCIPLES OF FRUIT-GROWING.—*Bailey*. 514 pages. \$1.25.
- BUSH FRUITS.—*Card*. 537 pages. \$1.50.
- HORTICULTURIST'S RULE BOOK.—*Bailey*. 312 pages. 75 cents.
- SPRAYING OF PLANTS.—*Lodeman*. 399 pages. \$1.00.
- THE NURSERY BOOK.—*Bailey*. 365 pages; 152 illustrations. \$1.00.
- AMATEUR FRUIT-GROWING.—*Samuel B. Green*. 5x7 inches; 134 pages, with numerous fly leaves for notes; bound in cloth, and illustrated. 50 cents.

PLANT AND ANIMAL LIFE.

- THE STORY OF THE PLANTS.—*Grant Allen*. 213 pages. 40 cents.
- THE STUDY OF ANIMAL LIFE.—*J. A. Thomson*. 375 pages. \$1.75.
- INSECTS INJURIOUS TO FRUITS.—*Saunders*. 436 pages. \$2.00.

MISCELLANEOUS.

- THE HOME PHYSICIAN AND CYCLOPEDIA OF MEDICINE.—By seven eminent physicians, aided by specialists. 1,300 pages; illustrated. Cloth, \$4.75; leather, \$5.75.
- LANDSCAPE GARDENING.—*S. T. Maynard*. 338 pages. \$1.50.
- BIRDS THAT HUNT AND ARE HUNTED.—*Neltje Blanchan*. 360 pages. \$2.25.

HOW TO OBTAIN THESE BOOKS :

We will furnish present subscribers any of the above books for cash or as premiums for obtaining new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each, according to the following scale :

Books valued at from	\$0.30 to	\$0.65, for 1 new subscriber.
"	.90 to	1.25, for 2 "
"	1.50 to	1.75, for 3 "
"	2.00 to	2.50, for 4 "
"	2.75	for 5 "
"	6.00	for 12 "

We can furnish any of the above books at the regular retail price, which is given opposite the title of the book. By a careful study of the above list, any farmer can choose a select list of books suited to his needs, and for a small outlay in cash, or effort in obtaining new subscribers for the ADVOCATE, secure the nucleus of a useful library.

Cash to accompany names in every case. Subscriptions credited a year in advance from date received.

The WILLIAM WELD CO., Ltd., London, Ontario.

Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means trashy goods, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

Gents' Watches.

	New Subscribers.
No. 1. Yankee Nickel Watch.....	2
No. 2. Trump Nickel Watch.....	4
No. 3. Trump Gun Metal Watch....	5
No. 4. No. 14 Silver Watch.....	8
No. 5. 7 Jeweled Gent's Elgin in 3 oz. Nickel Case.....	10
No. 6. 7 Jeweled Gent's Elgin in Gun Metal Case.....	11
No. 7. 7 Jeweled Gent's Elgin in Sterling Silver Case....	14
No. 8. 7 Jeweled Gent's Elgin in 20-year Filled Case.....	18
No. 9. 7 Jeweled Gent's Elgin in 25-year Filled Case.....	21
No. 10. 15 Jeweled Gent's Elgin in 3 oz. Nickel Case.....	15
No. 11. 15 Jeweled Gent's Elgin in Gun Metal Case.....	15
No. 12. 15 Jeweled Gent's Elgin in Sterling Silver Case....	18
No. 13. 15 Jeweled Gent's Elgin in 20-year Filled Case.....	21
No. 14. 15 Jeweled Gent's Elgin in 25-year Filled Case.....	25

Ladies' Watches.

	New Subscribers.
No. 15. Gun Metal Swiss Chatelaine.....	4
No. 16. Sterling Silver Swiss Chatelaine.....	6
No. 17. Nickel American O. F., large size.....	5
No. 18. Gun Metal American O. F., large size.....	5
No. 19. Nickel, small size.....	9
No. 20. Gun Metal, small size.....	10
No. 21. Sterling Silver, small size....	10
No. 22. 7 Jeweled Elgin in 20-year Filled Hunting Case....	20
No. 23. 7 Jeweled Elgin in 25-year Filled Hunting Case....	22
No. 24. 15 Jeweled Elgin in 20-year Filled Hunting Case....	23
No. 25. 15 Jeweled Elgin in 25-year Filled Hunting Case....	25

Description of Watches.

The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows :

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.

No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

No. 7. Same movement with Sterling Silver O. F. screw back and bezel case.

No. 8. Same movement in 20-year guaranteed Gold Filled O. F. screw back and bezel case.

No. 9. Same movement in 25-year guaranteed Gold Filled O. F. screw back and bezel case.

Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

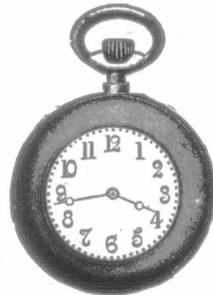
Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

When making your choice of Watch as premium, be sure to mention its number as given in premium list, also whether Lady's or Gent's.

The WM. WELD CO., Ltd., London, Ontario.





So nicely woven of strong steel wire that the tension is the same all over. Stretch it tight. Contraction amply provided for. Low in price; high in quality. Sold everywhere. If your dealer hasn't it, write to

American Steel & Wire Co.
Chicago, New York,
San Francisco,
Denver.

WANTED—Man and wife as caretakers of suburban county home near Detroit, Mich.; man must have knowledge of gardening and fruit. o. John Corbin, 28 Newberry Blag., Detroit, Mich.

IMPORTANT SALES OF PURE-BRED STOCK.

JOHN THORNTON & CO. will sell by AUCTION during NEXT SPRING the following first-class Herds:—

THURSDAY, FEBRUARY 20.—LORD BARNARD'S Herd of SHORTHORNS, at the Raby Home Farm, Staindrop, Darlington.

FRIDAY, MARCH 14.—MR. CARSON'S JERSEYS, principally of the famous "Golden Lad" strain, at Theydon Bois, Essex.

WEDNESDAY, MARCH 19.—The entire celebrated Herd of RED POLLED CATTLE belonging to J. E. PLATT, Esq., at Howbury Hall, Bedford.

THURSDAY, MARCH 20.—LADY DE ROTHSCHILD'S JERSEYS, at Aston Clinton, Tring.

FRIDAY, APRIL 11.—CAPT. DUNCOMBE'S Herd of SHORTHORNS, at Warenes Park, Sandy.

Catalogues may be had of JOHN THORNTON & Co., 7 Princes Street, Hanover Square, London, W., who undertake commissions, shipment and insurance.

AUCTION SALE

SHORTHORNS

12 HEAD:

8 Females & 4 Bull Calves

All Bates blood. Good milking strain.

SALE ON WEDNESDAY, 12th FEB'Y, 1902.

Lot 24, Con. 3, NORTH OXFORD.

2 miles north of Thamesford, C. P. R., 14 miles from London, Ontario.

D. BAIGENT, THAMESFORD, ONT.

FOR SALE: TWO EXTRA GOOD SHORTHORN BULLS

Twenty months old; red; also younger ones, as well as a number of heifers or young cows in calf or calf at foot.

YORKSHIRE SWINE—BOARS AND SOWS.

RICH. GIBSON, DELAWARE, ONT.

SECOND ANNUAL ONTARIO

PROVINCIAL AUCTION SALES

OF PURE-BRED CATTLE AND SWINE

will be conducted under the auspices of

The Dominion Cattle, Sheep and Swine Breeders' Associations

At OTTAWA, ONT., FEB. 12th, 1902, and at

GUELPH, ONT., FEB. 26th, 1902.

Selected stock. Nothing but good representatives of each breed will be allowed to enter and be put up for sale. Orders to buy may be placed with the Secretary, and will be honorably discharged.

Reduced Passenger Rates. Special Rates to Buyers.

A grand opportunity for anyone wishing to procure registered stock. For copy of rules, catalogue and full particulars apply to

A. W. SMITH, President, Maple Lodge, Ont.
A. P. WESTERVELT, Secretary, Parliament Bldg., Toronto, Ont.

GREAT DISPERSION SALE OF

Shorthorn cattle, Cotswold sheep, German Coach fillies and Berkshire Sows.

I will sell by public auction, on Wednesday, 29th January, 1902, about 40 head of Shorthorns—26 females, 5 bulls, the rest calves. Also 19 Cotswold ewes, 4 ewe lambs; 3 fillies, by the German Coach horse, Amandus; 3 Berkshire sows. Stock in fair condition. Terms: 9 months' credit, on approved security, or 5 per cent. discount per annum.

Farm 10 miles south of Stratford, G.T.R. Teams will be at Stratford on morning of sale to convey intending purchasers to farm. Catalogues mailed on application after January 8th.

Capt. T. E. Robson, M.P.P. (Auctioneer.)
Chas. Youngs, Brookside P.O., Ont.

GOSSIP.

R. Reid & Co., Hintonburg, Ont., breeders of Ayrshire cattle and Tamworth swine, report that they have sold 3 Yorkshires, 26 Tamworths, 14 Berkshires and 4 Ayrshires during the past four months.

N. M. Blain, breeder of Tamworth hogs, St. George, Ont., writes: "Trade has been brisk all fall. The yearling boar advertised in your last issue is sold to Jno. McKellar, Belmont. Among many other sales were one No. 1 boar and two sows, one out of Thrifty Maid 1881 and one out of the silver medal sow, to W. W. Grooms, of Eberts, Ont., who is starting a herd of choice Tamworths."

J. T. Gibson, breeder and importer of Shorthorn cattle and Lincoln sheep, Denfield, Ont., writes: "The Christmas number was duly received. As usual, it is full of information, practical, useful, and ornamental. The cut of my cross-bred Lincoln wether of course interests me most. It is a great picture of a great sheep—gives the width of his back so well, also his even outline. He led the class for depth, width and length. I have seldom fed a wether that finished so well at both ends, or a long sheep with so good a back, and he carried a lot of flesh without being too fat. His breeding was three Lincoln top-crosses on Leicester."

BRAMPTON JERSEY HERD.

The young bulls advertised in this issue by the old firm of B. H. Bull & Son, Brampton, Ont., should attract the attention of those seeking bulls to head their herds. The Brampton herd is the only Jersey herd that is headed by two bulls that have won the sweepstakes at the Toronto Exhibition. One of these bulls was bred on the Island of Jersey and the other one is of St. Lambert breeding. They are both descended from very heavy milking strains, and their individual merit is proven by their winnings, so that by crossing either of these bulls with the celebrated females of the herd the proprietors will be able to supply their customers with stock of the best imported strains or of the old standard St. Lambert breeding.

The three St. Lambert bulls advertised in this issue are all sired by a pure St. Lambert bull, whose dam has an official record of 16 lbs. 5½ ozs., and his sire's dam has a record of 16 lbs. 4 ozs. One of these bulls is out of Sweet Fairy, a very superior cow, that has given forty-five pounds of milk per day, testing over 6 per cent. Another is out of Princess Bonnie Bird, that gave 38 pounds of milk per day, on winter feed, with her second calf. The other one is out of Lily St. Lambert, a typical show cow, that gave 30 pounds of milk per day with her first calf.

Those who have followed the records of the show-rings will remember the prominence gained by the progeny of Brampton's Monarch (Imp.) at the leading Ontario Fairs in 1901. They won first on yearling heifer in milk, second on yearling heifer out of milk, second on heifer calf under one year, second and fourth on heifer calves under six months, first, second and third on bull calves under one year, first on bull calf under six months, at the Toronto Exhibition; first and second on heifer calves, first, second and third on bull calves, and first on herd of calves, at London; first and second on yearling heifers, first on heifer calves under one year, first and second on heifer calves under six months, first and second on bull calves under one year, first and second on bull calves under six months, also sweepstakes as best female any age, on yearling heifer, and male sweepstakes on bull calf, at Ottawa. This is a record unequalled by the get of any sire, and his get are being sought after by leading Canadian breeders.

GLYDESDALE AND HACKNEY STALLIONS AND MARES

FOR SALE: THE GLYDES-DALE STALLION

CHARMING LAD 2923

Rising 3; large size and very smooth; has won 6 prizes and a gold medal at Ottawa Exhibition.

LORD STANLEY 2537, rising 2, also a prizewinner.

CLOTH OF GOLD 2959, 5 years old; first-prize winner at Toronto and first and sweepstakes at London. Also brood mares and a number of very fine foals of both sexes. TWO HACKNEY stallions; also two mares rising 4 and 5 years old; large, handsome, high-steppers, well broken to drive. Size, action and quality combined in all. Inspection invited.



O. SORBY, GUELPH, ONTARIO.

CLYDE SHIRE HORSES

SCOTCH SHORTHORNS, LEICESTER SHEEP.

Stock of different ages and sexes for sale. Two stallions, colts, and a few young bulls now ready. Also choice rams and ewes. Our stock won 1st prize at Toronto, Ottawa and Chicago in 1900. Write for what you want. My motto: The best is none too good.

J. M. GARDHOUSE, Rosedale Stock Farm, Malton, G.T.R.; Weston, C.P.R. Highfield, Ont.

45 Head Imported and Home-bred Scotch Shorthorns of the best families and of the greatest merit

WILL BE SOLD BY AUCTION, ON

Wednesday, the 5th day of February, 1902,

BY

Robert Miller, Stouffville, Ontario.

Sale will consist of absolutely straight cattle of the most valuable ages and in the most valuable condition, of the following families: Cruickshank Village Girls, Village Blossoms, Lavenders, Brawith Buds, Broadhooks, Butterflies, Duchesses of Gloster, Floras, Nonpareils, and Secrets; Marr Missies, Claras, Princesses Royal, and Floras; Campbell Clarets and Minas.

THERE WILL BE NO RESERVE. ASK FOR CATALOGUE.

R. W. BARCLAY, WEST LIBERTY, IOWA, AUCTIONEER.

Stouffville is 27 miles from Toronto. Farm 1¼ miles from station.

Annual meeting of Shorthorn Association will be held in Toronto day before sale.

THEY WANT

Dr. Hess' Stock Food in England

Read what the great English importer, Mr. M. G. Rich, Bath Bridge, Tetsbury, Gloucestershire, Eng., and owner of 1,000 acres of land, writes:

BATH BRIDGE, TETSBURY, GLOUCESTERSHIRE, ENG., Aug. 8th, 1901.

DR. HESS & CLARK, Ashland, O.: GENTLEMEN,—Where can I get Dr. Hess' Stock Food in England? In my travels in America I find it in many stables, and highly recommended by my friends.

P. S.—I farm nearly 1,000 acres.

Yours respectfully,
M. G. RICH.

DR. HESS' STOCK FOOD IS NOT A STIMULANT,

but a tonic. It expels worms, cleanses the blood and system generally; calls into healthy action very organ of the animal body; allows no food to pass off undigested. It pays to feed it as a health promoter and as a flesh and milk producer.

EVERY PACKAGE GUARANTEED.

7-lb. sack	\$.65	25-lb. sack	\$2.00
12-lb. sack	1.00	50-lb. sack	3.75
		100-lb. sack	\$7.00

If your dealer can't supply you, send your order to

THE GREIG MFG. COMPANY, Canadian Agents, Montreal, Quebec.

FREE.—Dr. Hess' new scientific veterinary work, giving the symptoms and latest treatment, on stock diseases, will be mailed you for the asking. Address—Dr. Hess & Clark, Ashland, Ohio.

LATELY IMPORTED A FRESH LOT OF

Glydesdale Stallions,

Comprising sons and grandsons of many of the most noted Scotch showyard winners and sires, all in the pink of condition without surplus flesh, and personally selected to meet the best Canadian markets, having, without exception, the best of bone, hair, feet, and action, coupled with true Clyde character. I will make further importations as the times demand. Inspection invited.

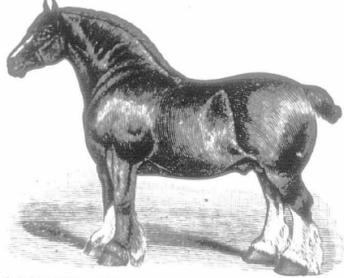
Prices consistent with quality.

ROBERT GRAHAM,

Ringwood P. O., Ont.

Stouffville Station, G. T. R., and telegraph office.

Imported Stallions for Sale.



JAMES DALGETY, 229 HYMAN STREET, LONDON, ONTARIO.

THIRD consignment, per S.S. "Orithia" from Glasgow, due to arrive end of January, 1902.

DALGETY BROS., DUNDEE, SCOTLAND, the largest importers and exporters of horses in Canada, have on hand just now a choice selection of above, including several prize winners. Our third consignment includes some extra good horses, being sired by such noted sires as Mains of Airies, King's Knight, Royal Stamp, etc., etc. They combine size, quality and action, and all good colors; age, from two years upwards; and will be for sale at

BLACK HORSE HOTEL,

FRONT STREET, TORONTO, ONT.,

on Tuesday, 4th February, for one week; after that at our own stables, London, Ont. Any one in need of a good stallion should not miss seeing our stock before buying. Prices right. Apply:—om

GOSSIP.

American Clydesdale Breeders.

At the recent annual meeting of the American Clydesdale Society, in Chicago, the Secretary Alex. Galbraith presented his annual report, showing \$2,650 in the treasury, which a few years ago was about empty. Fifty-seven new members have joined the Association since last meeting. Reference was made to the sweeping victories achieved by Clydesdale geldings in harness at the International Show, and a committee was appointed to draw up a resolution expressive of the appreciation by American Clydesdale breeders of the enterprising and generous action of Messrs. A. and W. Mont-

gomery, of Scotland, in sending across so many valuable geldings for competition at Chicago show, at a great pecuniary sacrifice. Alex. Galbraith retired from the office of Secretary and Treasurer, which he has held for the last seven years, and R. B. Ogilvie was elected to that position. N. P. Clarke was re-elected President, and Alex. Galbraith Vice-President. The Executive Committee consists of those three officers, with the addition of James Z. McLay, Robert Miller, David McCrae, and Andrew Davidson. The following twelve members were chosen as Directors: Wm. Graham, Ontario; A. B. McLaren, Ill.; J. H. Bass, Indiana; Robt. Holloway, Ill.; August Post, Ill.; Andrew Crawford, Iowa; E. H. Peed, Indiana; B. R. Harrison, Ohio; J. A. S. Macmillan, Manitoba; and J. A. Turner, N.-W. T.

Corn Planting
 must be well and carefully done, as the future crop depends upon it. For all purposes, in any soil, on all kinds of ground nothing equals the



SPANGLER CORN PLANTER.
 It saves time, labor, money and insures the crop. You know when it is working; you can see the corn on its way to the ground. Made with or without fertilizer attachment. New device for sowing peas, beans, castor, etc. We also make the famous Spangler Low-Down Grain and Fertilizer Drill. Write for catalog and circular.

SPANGLER MANUFACTURING CO., 518 Queen St., York, Pa.

IMPORTED
Clydesdale Stallion

Owing to my partner having sold his farm and going out West, I offer for sale the first-class 6-year-old imported Clydesdale stallion,

Gay Prince (10759) [2470]

a prizewinner at Lanark, Dumfries, the Highland Society, and Toronto. Color, dark brown; blaze in face, and two white hind ankles. Weight, 1,900 lbs. Sire **Prince Alexander (8899)**, a Highland Society champion; dam by **St. Stephen (7231)**, by **Darnley (222)**. Grand bone, hair, action and style. His colts are large, strong, solid color and fine quality, winning prizes wherever shown. Sure, quiet, and in every way satisfactory.

Terms reasonable. For further particulars, come and see or write—

F. A. Armstrong, V.S., Fergus, Ont.

BAWDEN & McDONEL,
 EXETER, ONTARIO,

IMPORTERS OF
Clydesdales, Shires
 AND HACKNEYS.

OUR last importation of 14 Stallions comprises winners at the leading shows in England and Scotland; all of which we are offering at living prices, including the champion Shire stallion, Belshazzar.

WM. SMITH, COLUMBUS, ONT.,
 IMPORTER AND BREEDER OF

Clydesdale Horses & Shorthorn Cattle

Clydesdales and Ayrshires

Imported and home-bred. Also Dorset Horned sheep, and the leading varieties of poultry.

ROBERT NESS & SONS, Howick, Que.

4 Imp. Clydesdale Stallions

31 Imported Shorthorn Cows and Heifers.
 7 Canadian-bred Cows and Heifers.
 3 Imported Shorthorn Bulls.
 5 Canadian-bred Bulls.

GEO. ISAAC & BROS., BOMANTON, ONT.
 COBourg STATION, G. T. R.

Wm. Brash, Ashburn, Ont.,

BREEDER OF
 CLYDESDALE HORSES and SHORTHORN CATTLE.

FOR SALE:
Clydesdales and Shorthorns.

Young stallions and fillies bred from imported sires and dams. Also a choice bunch of Shorthorns, of both sexes and all ages, including a few extra choice young red and roan heifers and bulls.

ONTARIO
JOHN BRIGHT,
 Myrtle, Ontario.

Shires, Shorthorns, and Leicesters.

Young stock of both sexes for sale. Imported Prince Louis = 32082 = heads the herd. Write for prices or come and see them.

John Gardhouse, Highfield P. O.,
 Weston, G. T. R. and C. P. R.

FOR SALE:
CLYDESDALES and SHORTHORNS.

Stallions from sucking foals up. Brood mares and fillies of superior quality and breeding. A few grand young Shorthorn heifers, bred in the purple. Special mention, the great four-year-old stallion "Prince Lyon."

THOS. GOOD,
 Richmond P. O., Ont.
 C.P.R.

6-POLLED ANGUS BULLS—6

Six young bulls, from 6 to 16 months old; prize-winners among them. All for sale.

Alex. McKinnon, Hillsburg P. O. and Station.

PLEASE MENTION THE
FARMER'S ADVOCATE

GOSSIP.

Scotch-bred Shorthorn—8 young bulls, 10 to 15 months old—are advertised for sale in this issue, also several heifers, and collie pups, by L. K. Weber, Hawkesville, Ont.

Mr. Richard Gibson, Delaware, Ont., near London, advertises two young Shorthorn bulls that he says are extra good, sired by a Campbell Claret bull, one out of an Alexander Filligree, the other has three Scotch tops on Bates foundation, a popular combination; also heifers and young cows. See the advertisement.

Shorthorn breeders will be interested in the information that the cow, Missie 153rd, sold by Mr. W. S. Marr, Uppermill, Aberdeenshire, at the International Live Stock Show and sale at Chicago in December last, and purchased by Messrs. W. C. Edwards & Co., produced a dark roan heifer calf on January 8th, which is regarded as a great acquisition to their herd.

We are in receipt of the catalogue of the 50 head of Red Polled cattle, property of Mr. Jas. E. Platt, Bedford, England, advertised in the "Farmer's Advocate" to be sold by auction on March 19th by John Thornton & Co., auctioneers. This is a noted dual-purpose and dairy herd of Red Polls, and the pedigrees and footnotes show that representatives of the herd have been very successful prizewinners at the Royal and other leading shows in Great Britain, while the portraits indicate beautiful animals, and the records at English dairy shows as well as in America testify to the excellence of the breed as milkers, and the cattle give every appearance of being good feeders and flesh-producers, and the absence of horns is also in their favor. There is room for this useful breed in Canada, and any one desiring to give them a trial should apply for the catalogue as per the advertisement.

Mr. Edwin Battye, Gore Bay, Ont., writes: "Our importation arrived here on the 3rd of December. They are a nice lot of cattle: Four beautiful yearling heifers, English foundation, Scotch topped, three of them by Rosario (75471), by Wiltshire Count (6882+); dam Rose Blossom by Clan McAlpine, grandam Rosebush, by Gravesend. Another yearling, Picture 4th, is from Golden Robin, out of Picture 2nd by Premier Pansy, bred by John Garne, of Great Rissington, a son of his celebrated cow, Petted Pansy. Golden Robin (68718) was bred by J. D. Willis, by Roan Robin (57992), dam Golden Sunshine by Royal James. Golden Robin won 1st at Oxfordshire Show, 1st at Royal Counties Show, 1st at Norfolk Show at Yarmouth, and 2nd at Lincolnshire Show in 1894.

Roan Robin was used by Mr. Duthie, J. D. Willis, and in the Queen's herd at Windsor, and was bred by A. Cruickshank. These are beautiful heifers, full of quality, sweet and well-proportioned, especially good in heart-girth. One cow, Winsome Beauty 3rd, is a rich roan and is Scotch-bred, three years old last March; bred by Messrs. Law, in Scotland, and sold at their sale last fall for 150 guineas. She is in calf to Archibald, sold at a high price for export, and he was by Lavender Archer, a Duthie-bred bull by Scottish Archer, out of a Sittytton Lavender cow, who won 1st prize and champion at Chippenham Show, 2nd at Castle Carey in 1897, 3rd at Somersetshire Show, 2nd and reserve for champion at Oxfordshire and reserve and H. C. at B. W. E. Show at Cardiff in 1898. Winsome Beauty 3rd was 1st-prize yearling at Elgin and Nairn in Scotland, and 1st-prize three-year-old at Doncaster in 1901. She is sired by Lord James, bred by C. E. Law, and won 1st prize and the Shorthorn Society's prize at Aberdeen, 1st at Keith and Elgin in 1895.

This is a gem of a cow, good color, thick-fleshed and a grand handler and of great substance, yet smooth and nicely-balanced—an all-round good show cow—and she has a beautiful heifer calf, the image of herself, by Sovereign (77937), sired by Pride of Fame (73238), dam Sunbeam 3rd by Cairngorm (62250), and bred by Mr. I. McWilliam. Sovereign won 1st at Keith. Another good one is Jill 22nd, red-roan, sire Spicebox. She is of fine Scotch type, a large cow, long, deep and wide, great spring of rib, good in the crops and heart-girth, and a grand breeder, her last year's calf being bought for the King's herd for 75 guineas at Mr. H. Dudding's sale, and considered one of the best yearlings at Sandringham now. She has now a good heifer calf at foot by Pride of Fortune (73240), bred by Mr. Duthie, sire Pride of Morning (64546), and out of Flora 92nd, by William of Orange. She is now in calf to Royal Emperor (79809), Imp., bred by W. S. Marr, the bull we intend to keep for our stock bull, described in "Advocate" of the 15th of Nov., 1901.

FOR SALE:
 Three young St. Lambert bulls; best breeding, color and dairy form.

T. PORTER, MOUNT DENNIS, ONT.

HAVE YOU TESTED
"SALADA"

CEYLON TEA? It is pure, delicious and refreshing. It is sold only in lead packets. BLACK, MIXED or GREEN. Send us your name on a postal, mentioning whether you drink Black, Mixed or Green, and we will mail you free sample. Address:
"SALADA," TORONTO.

FERRY'S SEEDS
 For
 The Farmer
 The Gardener
 and
 The Housewife



They cost a little more. They are worth a great deal more than the ordinary kind. Sold everywhere. 1902 annual free.

D. M. FERRY & CO.,
 Windsor, Ont.

90 HEAD
 High-quality,
 Early-maturing
Herefords
 Prizewinners,
 Young bulls,
 cows,
 heifers.



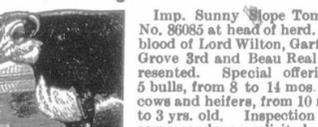
The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue.

H. D. SMITH, COMPTON, QUE.

HEREFORDS FOR SALE.
 THE HERD of upwards of 90 head of registered animals contains the blood of the best English herds, with imported True Briton and Likely Lad at the head. Stock of both sexes and all ages for sale. Correspondence or a personal visit invited.

A. S. HUNTER,
 DURHAM, ONT.

The Sunnyside Herefords.



Imp. Sunny Hope Tom 1st No. 89085 at head of herd. The blood of Lord Wilton, Garfield, Grove 3rd and Beau Real represented. Special offering: 5 bulls, from 8 to 14 mos.; 10 cows and heifers, from 10 mos. to 3 yrs. old. Inspection and correspondence solicited.

O'NEIL BROS., Southgate, Ont.
 Lucan station, G. T. R. Iderton station, L. H. & B.

FOR SALE:
 Three Guernsey bulls, 5, 9, 13 mos. old, sired by Masher (Imp.). Six Ayrshire bulls, 1 year and under, sired by Matchless. Shropshire lambs, sired by Canadian Flag-staff (imported direct). Address—

ISALEIGH GRANGE FARM,
 J. N. GREENSHIELDS, Prop. o Danville, Que.

IMPORTED JERSEY BULL
 FOR SALE:
 The prizewinning sire, imported



DISTINCTION'S GOLDEN

Is docile and sound. His get have won the family prizes for three years at Toronto Exhibition.

APPLY
ROBERT DAVIES,
 THORNCLIFFE STOCK FARM, TODMORDEN,
 or 34 Toronto St., Toronto.

Shorthorn Cattle
 and Lincoln Long wool Sheep.
HENRY DUDDING
 Riby Grove, Great Grimsby,
 Lincolnshire,

Has always for inspection and sale the largest flock of pure Lincoln sheep and Shorthorn herd in the country, and many prizewinners. The sheep are famous for their great size, fine lustrous wool, and 150 years' good breeding, and at the home sales have made the highest prices on record. The Shorthorns comprise the best Bates, Booth, and Scotch blood, including the best prize strains of Duthie, Marr, Willis, and Harrison. During the last year 86 prizes have been taken by the Riby Shorthorns and Lincoln sheep at the leading shows in England.

Cables: Dudding, Keelby, England.
HIGH PARK STOCK FARM.
GALLOWAYS of the choicest breeding and most fashionable strains. Inspection or correspondence invited. **A. M. & ROBERT SHAW,**
 om P. O. Box 294, Brantford, Ont.

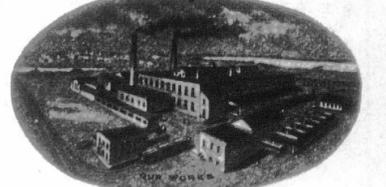
Scotch-bred Shorthorns AT OAK GROVE ARE famous for size and quality. Eight bulls from 10 to 15 months old; reds and roans. Several heifers at prices that will save you money. Also Collie pups. **L. K. WEBER,** Hawkesville P. O., Ont., Co. Waterloo, St. Jacob's Station, G. T. R.

J. & W. B. WATT,
 SALEM, ONTARIO
 (POST AND TELEGRAPH OFFICE),
 BREEDERS OF—
 Shorthorn Cattle, Clydesdale Horses,
 Leicester and Oxford Sheep, and
 Berkshire Pigs.

Our herd contains such families as Matchless, English Lady, Mildred, Village Buds, Mimos, Stamford, Claret, and Martha. Royal Wonder = 84682 =, junior champion of 1901, now heads the herd. A choice lot of young bulls and a few females for sale. We offer our whole flock of Leicesters for sale—thirty-five ewes and ewe lambs and fifteen rams.

Farms 2 miles from Elora Stn., G.T.R. and C.P.R., 12 miles north of Guelph.

Fertilizers
 HIGH GRADE.



SAMUEL M. CULP, Beamsville.—"Have used your FERTILIZERS the past season; will say I am well pleased with results for the following reasons:
 "(1) My grapes were harvested a week or ten days earlier.
 "(2) Berries larger and sweeter and ripened more even.
 "(3) Vines in better shape for next year's crop; also used on pears with good results; pears smoother and more even in size.
 "Am pleased to place my order for another ton for this season."
 Prices, catalogue and information on application. A good, thorough farmer wanted in every section to represent our high-grade FERTILIZERS in any territory not already taken up.

THE W. A. FREEMAN CO., LIMITED,
 HAMILTON, ONTARIO.
 PLEASE MENTION FARMER'S ADVOCATE.

Does Not Disappoint.

The New Discovery for Catarrh Seems to Possess Remarkable Merit.

A new catarrh cure has recently appeared which so far as tested has been remarkably successful in curing all forms of catarrh, whether



in the head, throat, bronchial tubes, or in stomach and liver.

The remedy is in tablet form, pleasant and convenient to take, and no special secrecy is maintained as to what it contains, the tablet being a scientific combination of Blood root, Red gum and similar valuable and harmless antiseptics.

The safe and effective catarrh cure may be found at any drug store, under the name of Stuart's Catarrh Tablets.

Whether the catarrh is located in the nose, throat, bronchial tubes, or stomach, the tablets seem to act with equal success, removing the stuffy feeling in the head and nose, clearing the mucous membrane of the throat and trachea from catarrhal secretions, which cause the tickling, coughing, hawking and gagging so annoying to every catarrh sufferer.

Nasal catarrh generally leads to ulceration, in some cases to such an extent as to destroy the nose entirely and in many old cases of catarrh the bones of the head become diseased. Nasal catarrh gradually extends to the throat and bronchial tubes and very often to the stomach, causing that very obstinate trouble, catarrh of the stomach.

Catarrh is a systemic poison, inherent in the blood, and local washes, douches, salves, inhalers and sprays can have no effect on the real cause of the disease. An internal remedy which acts upon the blood is the only rational treatment, and Stuart's Catarrh Tablets is the safest of all internal remedies, as well as the most convenient and satisfactory from a medical standpoint.

Dr. Eaton recently stated that he had successfully used Stuart's Catarrh Tablets in old chronic cases, even where ulceration had extended so far as to destroy the septum of the nose. He says: "I am pleasantly surprised almost every day by the excellent results from Stuart's Catarrh Tablets. It is remarkable how effectively they remove the excessive secretion and bring about a healthy condition of the mucous membranes of the nose, throat and stomach."

All druggists sell complete treatment of the Tablets at 50 cents, and a little book giving the symptoms and causes of the various forms of catarrh will be mailed free by addressing F. A. Stuart Co., Marshall, Mich.—Advt.

Health and Happiness

POTENTIAL ELEMENTS IN NATIONAL SUCCESS.

SHREDDED WHEAT

Produces Health

Contains the whole wheat and embodies all the elements of nutrition necessary to restore the vital energy expended by the exactions of modern civilization.

Shredded Wheat for sale by all grocers.

FOR SALE: Nine Shorthorn bulls, from 8 to 15 months old. Also pure-bred Clydesdale stallion, bred from imported stock, rising 2 yrs.; brown in color.

McDONALD BROS., WOODSTOCK, ONT.

GOSSIP.

We would draw the attention of our readers to the change of advertisement of W. C. Shearer, Bright, Ont. He offers grand cockerels from a fine laying strain of Barred Rocks. This should be a fine chance for farmers and fanciers to introduce new blood into their flocks.

O'Neil Bros., Southgate, Ont., breeders of Hereford cattle, whose advertisement appears in this paper, call attention to an error in the Gossip, re their herd, in December 15th issue, page 864 credit being there given their bull, Sunny Slope Tom, for the winning of the championship at the Trans-Mississippi Show at Omaha in 1896, instead of his sire, Wild Tom, who really had that honor, the son at the head of the Sunnyside herd of Messrs. O'Neil being unborn at that time.

The 19th annual meeting of the Holstein-Friesian Association of Canada will be held at the Palmer House, Toronto, on Tuesday, February 4th, 1902, at 1 o'clock, p. m. The Executive Committee will meet at 10 o'clock. Mr. Matt. Richardson, Caledonia, gives notice that he will move that the fee for registration of imported animals be raised. Everyone interested in Holstein-Friesian cattle is invited to attend. Buy ticket one way and ask for certificate to secure reduction for return. Members will please note that the annual fee for 1902 is due February 1st. G. A. GILROY, Pres. G. W. CLEMONS, Secy.

Messrs. R. Mitchell & Son, Nelson, Ont., when ordering a change of advertisement, write: "Our present herd of Shorthorns are the best lot we have ever owned, and we are now offering a number of nice yearling and two-year-old heifers in calf to our imported bulls, Major Alpine and Prince William. We would also sell one of these bulls. They are both red, and of outstanding style and finish. We have in quarantine 15 head, due to leave there February 1st, including Greengill Victor, a red bull calf, to head our herd, being a Princess Royal, from the herd of W. S. Marr, of Uppermill, sired by Marengo; also a yearling by Best of Archers, and in calf to Violet Victor, the highest-priced bull in Mr. Duthie's sale last year. We also have a four-year-old cow, Strawberry 42nd, a winner at the Highland Society Show last summer, in calf to the great breeding bull, The Leader, that has been in use in the Duke of Northumberland's herd, and is now being hired by Mr. William Duthie for a season at Collynie. Another yearling is Scotch Thistle, a red, of the old Kiblean Beauty tribe, and in calf to Luxury, full brother to the champion at London and Smithfield fat stock shows. Among the two-year-olds is Cranberry 4th, a roan of good size, in calf to Archer's Heir, a son of the noted Brave Archer."

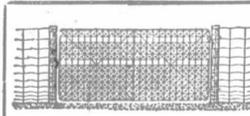
NOTICES.

IT IS CORRECTLY ESTIMATED that there are fully one million teapots called into requisition to infuse "Salada" Ceylon tea every day of our lives. If you drink Japan tea you should try "Salada" Ceylon green tea.

SUGGESTIONS TO MAPLE SYRUP AND SUGAR MAKERS.—It is impossible to make first-class maple syrup unless you have first-class sap to make it from. Clean utensils of the right kind are indispensable, and only utensils of metallic kind should be used. No product of the farm is so susceptible to injury as maple sap, not even milk. Sap should be gathered as soon as there is a quart in the bucket. Have an outfit that boils shallow, with a regulator that will keep a uniform depth of sap at all times, and that has partitions which will keep the raw sap from intermixing with the sweet. Syrup should be drawn off the evaporator in small quantities, not four or five gallons at a time as is usually done, but from one to two quarts. Use a thermometer so that every gallon will be of the same weight; 219° is the standard for Imperial or U. S. measure. Do not judge by guesswork. Draw off syrup from the evaporator into a felt strainer. This will remove every particle of nitre from the syrup. If you are making syrup, strive to make better cheese. There seems to be a prevailing tendency in the minds of the consumers throughout Canada that syrup and sugar should be dark in color like the Indians made or that our grandfathers were in the habit of making. In order to be convinced that such syrup is of the poorest kind, and has not a maple flavor, let any one having a few maple trees about their house tap them next spring, and as soon as enough sap is obtained that is fresh, take it into the house and boil it into syrup over the kitchen stove in a clean tin vessel, and syrup that has a light amber color and a fine maple flavor will result. Maple sugar can also be made from this quality of syrup that is almost white. In order to produce the most perfect article, the best apparatus should be used. The farmers of Vermont have long been noted for producing the finest quality of maple sugar, and realizing the highest market prices. This is made on the "Champion" Evaporator, manufactured by the Grimm Mfg. Co., 81 Wellington Street, Montreal, Que. They will, as intimated in their advertisement, be pleased to give any information in regard to maple-sugar making asked for.

THE REASON You should use THE WINNIPEG HEATER is that it will give you more comfortable and healthy heating at less expense. Our booklet will explain.

THE WINNIPEG HEATER CO. OF TORONTO, Limited.
77 Victoria St., TORONTO, CANADA.



PAGE METAL GATES

are so low in price no one can afford to use wooden ones. Light, and yet strong enough to support a heavy man on the end while he swings around the circle without causing them to sag. They are neat in appearance, will last a lifetime. Will not sag nor get rickety. They are supplied with latches which allow them to be opened either way and are self acting. The only good metal gate that is low enough in price for general farm purposes. We also make Farm and Ornamental Fence, Poultry Netting, Nails and Staples. The Page Wire Fence Co., Limited, Walkerville, Ont. 1

SHORTHORNS, SHROPSHIRE, COTSWOLDS.

We are now offering a number of heifers and heifer calves; a few bull calves; a number of cows; all bred in the purple and as good as the best. Also Shropshire and Cotswold sheep. -om

JOSEPH BELL ESTATE, Bradford P. O. & Sta.

To Rid Stock of Lice

AND ALL SKIN DISEASES, Also to Keep Poultry Healthy

WEST'S FLUID

Which is also a SURE CURE OF CONTAGIOUS ABORTION. STANDARD SHEEP DIP IS CHEAP AND GOOD. Pedigree forms free to customers. Manufacturers:

The West Chemical Co'y, TORONTO, ONT.

Dairy Feed.

The percentage of digestible protein is the first consideration in dairy feeding. 100 lbs. prime cotton-seed meal contains as much protein as 600 lbs. corn meal. Cotton-seed and gluten meals increase dairy farmers' profits. Cotton-seed meal, gluten meal, hay, straw and feed grain for sale by H. L. BREEN, 41-45 Cottingham St., Toronto.

10 SHORTHORNS FOR SALE

Sired by Scottish Heifer and (imp.) Chief of Stars, and from prize-winning dams. Also cows, heifers, and Berkshire pigs. -o

ALEX. LOVE, - EAGLE P. O. BIRMARCK STATION ON M. C. R.

BELLEVUE SHORTHORNS.

Both sexes. IMPORTED AND HOME BRED. All ages. Prizewinners at home and abroad.

EDWIN BATTYE,

GORE BAY P. O. AND PORT. MANITOULIN ISLAND, ONT.

10 SHORTHORN BULLS

From 6 to 18 months old. Nearly all from imp. dams, and sired by the imp. Golden Drop bull, Royal Prince. Catalogue upon application. -om

John Miller & Sons, Brougham P. O. CLAREMONT STATION, C. P. R. ONT.

Shorthorns

For Sale: Choice young cows and heifers in calf to imp. bull. A few choice heifer calves. Bulls of various ages. Shropshire ram lambs, out of imp. Mansell-bred ewes. Prices moderate. -om

G. A. BRODIE, - BETHESDA, ONT. Stouffville Station, G. T. R.

Maple Lodge Stock Farm.

ESTABLISHED 1854.

SHORTHORNS.—First-prize milking strains, best Scotch breeding. Young bulls and heifers for sale. LEICESTERS.—A grand lot of ewes, bred to our imported rams, and a few choice rams, now for sale. Also Bronze turkeys. -om

A. W. SMITH, Ailea Craig Station, Maple Lodge P. O., G. T. R., 3 1/2 miles. ONT.

FOR SALE:

SHORTHORNS: 7 young bulls, from 8 to 10 mos. old, sired by Leta's Lad and out of deep-milking cows. H. E. HIND, Hag-rs-ville P. O. and Station, G. T. R. and M. C. R. -om

A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. Done with the DEHORNING KEYSTONE KNIFE is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush, bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying. Owned and Manufactured by R. H. McKenna, V. S., Picton, Ont.

Shorthorns and Leicesters.

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Imported Christopher =28850= heads the herd of large cows of grand milking qualities. Also a number of Leicesters of both sexes, from imported foundation. -om

JAMES DOUGLAS, CALEDONIA, ONT.

High-Class Shorthorns

and YORKSHIRE FIGS.

GRAND show bulls, 16 months old, by Imp. Sirius; 8 bulls from 8 months old up; low-down, thick, fleshy fellows; all bulls of great substance. A few cows and heifers in calf. Yorkshires—A lot of young pigs 3 months old and down. -o

JAS. McARTHUR, - Goble's, Ontario.

SHORTHORN BULLS

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale. -o

JAS. TOLTON, WALKERTON, ONT.

SHORTHORNS.

Fashionably bred, of both sexes and all ages. Nothing reserved. -o

H. PARKER, Durham P. O. and Station.

SHORTHORNS FOR SALE:

Seven choice young bulls, from 9 to 12 months old. Also a few choice heifers, in calf to the grandly bred Marr bull, Jacy Marquis (imp.). -om

JAS. GIBB, Spencerville, Ont.

J. R. McCallum, Iona Station, Ont.

Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices. Iona Sta. on M. C. R., half a mile from farm. -o

SHORTHORNS (IMPORTED).

Five choice young bulls, from 6 to 10 months old, by Imp. Capt. Mayfly, out of Indian Chief dams. -om

JAMES A. CRERAR, G. T. R. Shakespeare P. O. and Station, G. T. R.

ROSEVALE SHORTHORNS

Are of the up-to-date sort. We have for sale a number of young bulls and heifers of all ages. Marengo Heydon Duke (imp.) heads the herd. -om

W. J. SHEAN & CO., Owen Sound, Ont.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Prime Minister at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram. -om

J. T. GIBSON, DENFIELD, ONT.

Bonnie Burn Stock Farm, 40 rods north of

Ont., offers Shorthorn bulls and heifers with calf. Shropshire ewes with lamb, and Berkshire pigs. All at farmers' prices. Inspection invited. -om

D. H. RUSSELL, Innesville, Ontario.

SHORTHORNS AND LINCOLNS.

A. D. MCGUGAN, RODNEY, ONT.

Herd headed by the great sire and sweetstakes bull, Abbot'sford Grand crop of calves from imported and home-bred cows. Bulls one year and under for sale—reds and dark roans. Ram and ewe lambs for sale at reasonable prices. -o

For Sale: Shorthorns—Young bulls, heifers and calves. Berkshires—Young boars and sows. Leicesters—Aged, shearlings and lambs, both sexes. Southdowns—Rams and ewes, all ages. Write or come to E. JEFFES & SONS, Bond Head. -om

ARTHUR JOHNSTON, Vandeleur, Ont.

"ORCHARD HILL" SHORTHORNS.

Herd comprises representatives of best Scotch-bred families, with Lord Lavender at head. Young animals of both sexes for sale. -om

ARTHUR JOHNSTON, Vandeleur, Ont.

LAKE VIEW STOCK FARM.

SCOTCH SHORTHORNS, both sexes, all ages. As good as the best. -om

Meaford Station, G. T. R. North, JAMES BOWES, Strathclair P. O.

SHORTHORNS, COTSWOLDS AND BERKSHIRES FOR SALE.

One yearling bull; 9 bull calves; cows, heifers and heifer calves; 7 yearling rams; 20 ram lambs; ewes and ewe lambs; young pigs, from 6 weeks to 2 months old. -o

F. BONNYCASTLE & SONS, Campbellford P. O., Ont.

Centre Wellington Scotch Shorthorns

Young bulls, heifers and young cows for sale. Farm adjoining town on G. T. R. and C. P. R. Correspondence solicited. -om

H. B. Webster, Box 66, FERGUS, ONT.

"VIGILANT" NEST

SLIDING-ADJUSTABLE (Patented Can. & U.S.) The only nest in the World which positively prevents hens from eating their eggs. Simple-Efficient-Durable No springs-Eggs cannot break. The inclined nest gathers them safely in lower section. Prevents fleas, or parasites, etc. Everlasting, never failing, comfortable. Thousands now in use. Ask your dealer for it or write to L. P. Morin, Inventor, Mfr., 12 Antoine St., St. Hyacinthe, Que. Price 45c. each. AGENTS WANTED.



SHORTHORN BULLS.

Scotch-bred and rare good ones. Also females all ages. Write for particulars, or, better, come and see them. DAVID MILNE & SON, om Huron Co., Ont. Ethel, P. O. Ethel Station, G. T. R., half mile from farm.

SHORTHORNS:

We are offering 3 extra choice yearling bulls, all from imported sires, straight Cruickshank, with Lavendar and Miss Ramsden dams. THOS. ALLIN & BROS., om Oshawa, Ont.

Shorthorns, Berkshires, Leicesters

Am offering at present the grand stock boar, Crown Prince; also some young ones. ISRAEL GROFF, ALMA, ONTARIO.

HAWTHORN HERD

of deep-milking Shorthorns for sale. Six young bulls of first-class quality and breeding and from AI dairy cows. WM. GRAINGER & SON, om Lonsdale, Ont.

JOHN DRYDEN,

BROOKLIN, ONTARIO. BREEDER OF CRUICKSHANK SHORTHORNS AND CHOICE SHROPSHIRE SHEEP.

Choice Young Bulls and Ram Lambs for sale. Write for prices. om

SHORTHORNS (imported)

One bull, 2 years old, and 1 imported cow, and 7 home-bred heifers. THOS. RUSSELL, EXETER, ONT.

SHORTHORNS.

One bull, 1 year old; two bulls, 7 months old; a few heifers of choice breeding and superior quality. AMOS SMITH, om Listowel station. Trowbridge P. O., Ont.

EIGHT SHORTHORN BULLS FOR SALE-6 to 23 months old, two of them prizewinners. Write for breeding and prices. Terms easy. YORK, ONT. F. MARTINDALE & SON.

Agents Wanted

for the New Pictorial Stock Doctor and Live Stock Cyclopaedia, revised to 1901 with the assistance of the Professors of the Ontario Agricultural College, Guelph. The finest illustrated, cheapest and best book of its kind ever published. Large wages to agents. A full-page announcement of this book appeared in the ADVOCATE of the issue of June 1st. Particulars mailed free. Address WORLD PUBLISHING Co., Guelph, Ont.

SHORTHORNS:

We are offering for sale 8 bulls, from 8 months to 3 years old, by Mungo 2nd and Scottish Bard. Also a few cows bred to Baron's Heir. om ROBT. GLEN, Owen Sound, Ontario.

SCOTCH SHORTHORNS.

We are now offering a few young bulls, from 6 to 11 months; also a few heifers, from 6 months to 2 years; all showing No. 1 quality. W. G. HOWDEN, om COLUMBUS P. O.

Newcastle Herd Shorthorns and Tamworths

Two bull calves and two heifer calves, 6 to 9 mos. old. Twenty Tamworth boars and sows, soon fit to wean. Sows safe in pig and boars fit for service. All from Toronto prize stock. Prices right, quality considered. om Colwill Bros., Newcastle, Ont.

W. G. PETTIT & SON,

FREEMAN P. O., ONT., IMPORTERS AND BREEDERS OF

Scotch Shorthorns and Shropshire Sheep,

Are offering 10 Imp. bulls from 10 months to 2 years old; 10 home-bred bulls from Imp. stock, 10 to 15 months old; 40 Imp. cows and heifers, all ages. Home-bred cows and heifers all ages. Also a grand lot of ram and ewe lambs and yearling ewes for sale. om

Burlington Jct. Stn. Tele. & Phone, G. T. R.

SHORTHORN BULLS.

RARE GOOD BULLS. SCOTCH-BRED BULLS. Write for bull catalogue free.

H. SMITH, Hay P. O., Huron Co., Ont.

Exeter Station on G. T. R., half a mile from farm. om

GOSSIP.

We learn with regret of the death from pneumonia, on Christmas day, of Mr. Jacob C. Flatt, of Millgrove, Ont., son of Mr. J. Flatt, ex-M. P. P., and brother of Messrs. W. D. and D. C. Flatt, the well-known stock breeders of Hamilton and Millgrove. Mr. Flatt was 47 years of age, and had been in robust health up to the time of the attack which cut short his useful life. He had a beautiful home and a high-class farm and farm buildings, and was fond of good horses and cattle, of which he was a breeder in a quiet way. He was a very popular man in his county and will be greatly missed. He leaves a widow and five daughters.

N. W. Switzer, Streetsville, Ont., breeder of Shropshire sheep, whose advertisement appears in this paper, writes: "My flock at present are in excellent condition; quite a number of them have been winners at the fall shows. At Streetsville they won six firsts; at Milton four firsts, three seconds and diploma for the best pen; at Oakville three firsts and three seconds; at Cooksville five firsts and one second; at Woodbridge three firsts and three seconds. Among recent sales are: To J. W. Robinson, Malton, one shearing ram and two shearing ewes; to Geo. Simmons, Streetsville, ram lamb; to W. J. Leflar, Shelburne, ram lamb; to S. J. Pearson & Son, Meadowvale, ram lamb; to Herbert Hammond, Clarkson, ram lamb; to Albert E. Hanley, Maxwell, two yearling ewes; to W. C. Brown, Meadowvale, ram lamb. The ram I used this fall was bred by Wm. Thomas, England, and imported by W. S. Hawkshaw.

The high-class imported Clydesdale stallion, Gay Prince, (10759) Scotch Studbook, 2470 Canadian Studbook, is advertised for sale elsewhere in this issue. He is in the prime of life, 6 years old, good size, color, style and quality. Was a winner in Scotland as a yearling and 2-year-old, at Lanark, Dumbaron, and the Highland Society Show at Kelso. He also won third at the Canadian Spring Horse Show at Toronto in 1899, being only four years old and in thin flesh, good judges considering that he should have had a higher place. His breeding is of the best, being a son of Prince Alexander, a Highland Society champion, and his dam by St. Stephen, by the great Darney (222). He is offered for sale owing to one of the partners in his ownership selling his farm to go west. He is said to be quiet, sure and in every respect satisfactory, his colts coming big and full of quality (one rising two in May next, weighing 1,500 lbs.), and winning prizes wherever shown. See the advertisement.

Forest Stock Farm is situated in Wellington Co., Ontario, four miles west of the Village of Hillsburg, on the Elora branch of the C. P. R., and is the property of Mr. Alex. McKinnon, breeder of choice Polled Angus cattle, who has been breeding this class of cattle for a number of years. His herd, now numbering about 22 head, is made up of some especially choice animals, both imported and home bred. Mr. McKinnon recently sold eight head of females to Mr. W. J. Smith, of Michigan, who said he had seen no better herd of Polled Angus cattle in either the United States or Canada than this. The six young bulls advertised for sale in this issue are an exceptionally nice lot, of the low-down, blocky kind, smooth to a turn, with sleek, glossy skins, and bred in the purple. Parties wishing to purchase a bull of this great beef breed, which swept the championship list at leading British shows last year, will do well to look after this lot if something really good is wanted. A letter to Mr. McKinnon at Hillsburg P. O., Ont., will bring all the desired information.

NOTICES.

LIVE STOCK ALMANAC.—The Live Stock Journal Almanac, of London, England, for 1902 is an exceptionally strong issue, which does great credit to Vinton & Co., the publishers. A number of the various classes of live stock in Great Britain, horse subjects being given precedence, are published, embellished with many excellent engravings. The principal live-stock events of 1901 are given with a completeness of detail that makes the work of very great value for reference. We congratulate the publishers on the excellence of this volume.

NEW VETERINARY SURGEONS.—

At the Christmas examination of the Ontario Veterinary College, Toronto, held in the college buildings on Temperance street, the following gentlemen, after passing a stringent examination before the usual examining board, were awarded diplomas: Graduates—Wilson A. Bisbee, Cleveland, Ohio; Alexander Doherty, Ellettsburg, Ont.; J. Leonard Faragher, Lorain, Ohio; Albert T. Ford, Neustadt, Ont.; A. P. Lubach, Boonton, N. J.; John L. McCoy, Sussex, N. J.; William D. McMullen, Chilton, Wisconsin; Arthur E. Melhuish, Toronto; T. C. Neff, Jun., Long Glade, Va.; Robert J. Norton, Lincoln Sound; J. Arthur Royce, Lincoln, Neb.

Hillside Shorthorns and Shropshires.

Bulls, from 8 to 18 months old; heifers, various ages, of true type and fashionable breeding; also 25 ram lambs and 15 ewe lambs, from imp. sire. Will quote prices right for quick sales. om L. Burnett, Greenbank P. O., Ont.; Usbridge Stn., G. T. E.

PLEASE MENTION FARMER'S ADVOCATE.

Advertisement for Gulline collars. Text: Gulline collars wear like iron. Leather bodies, plated steel rims. Open or closed throats. Straw-stuffed or pneumatic in all styles and all sizes. Progressive dealers sell them, if yours doesn't, we'll ship to you direct and prepay the railroad freight to any part of Canada. Best Farm Collars ever made. Our 40 page illustrated Catalogue gives prices and tells all about them; we mail it free. WANT ONE? THE GULLINE HORSE COLLAR CO. GRANBY, P. Q. CANADA.



We beg to call your attention to a new and indispensable article in Barclay's Patent Attachment FOR THE CURE OF BALKING AND KICKING HORSES. Will control any vice known to a horse. Invaluable for breaking in colts. Can be adjusted in two minutes, and used with any harness, vehicle or implement. Sent, charges paid, to any part of Canada, with full directions for use, on receipt of price, \$5. Reliable representatives wanted. For further information, address THE BARCLAY MFG. CO., Brougham, Ont.



A GOOD THING EVERY FARMER SHOULD HAVE ONE. This cut represents our steel Storm King Forge. It is without doubt the most perfect article of its kind. It has a powerful blast, and is capable of taking off a welding heat of considerable size. Height, 20 inches. Size of pan, 26 x 27. PRICE, \$8.50. FRED. HAMILTON, HAMILTON, ONT. Wholesale and Retail Hardware and Implements. If you are building, or want anything in Hardware or Implements, write us for prices.

Scotch Shorthorns BREEDING FEMALES ALL IMPORTED.

Imp. Golden Drop Victor our present stock bull. Eleven young bulls and some young cows for sale at reasonable prices.

H. CARGILL & SON,

Cargill Station, G. T. R. CATALOGUE FREE. om Cargill, Ontario.

LESS LABOR AND MORE MONEY ON THE FARM.

BUY A LOW-DOWN, THICK-FLASHED

Hillhurst Shorthorn Bull,

Scotch-topped, from Cumberland, Gloucestershire, or Canadian dairy strain, and raise DEEP-MILKING, BIG-FRAMED COWS AND BABY BEEF in nature's way. Many cows that do not pay board at the pail will give a handsome return in growing beef. Four handsome young bulls, seven to nine months old, reds and roans, by the celebrated imported sires, "Joy of Morning" and "Scottish Hero," for sale at moderate prices. Low freights.

M. H. COCHRANE, COMPTON CO., P. Q.,

G. T. R., 117 MILES EAST OF MONTREAL. om HILLHURST STATION.

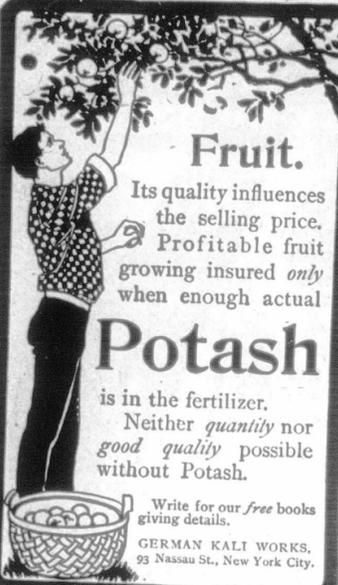
Charles Rankin

WYEBRIDGE, ONT., IMPORTER AND BREEDER OF SHORTHORNS, OXFORD DOWNS AND BERKSHIRE PIGS. Young stock always on hand. om



GREENGROVE HERD OF SHORTHORNS.

This herd was founded over 18 years ago, by John Fletcher, and contains such Scotch-bred tribes as the Missies and Mysies, Languishes and Butterflies, and is now headed by the famous stock bull, Spicy Robin = 28259 = (bred by J. & W. B. Watt), a worthy grandson of Imp. Royal Sailor = 18959 =, and of Barmpton Hero and of Ruby Vengarth = 15559 =, both of the noted English Lady family. Some good young stock for sale. For prices and particulars, address GEORGE D. FLETCHER, BINKHAM, ONT. C. P. R. Station, Erin. om



Fruit.
Its quality influences the selling price. Profitable fruit growing insured *only* when enough actual

Potash
is in the fertilizer. Neither quantity nor good quality possible without Potash.

Write for our free books giving details.
GERMAN KALI WORKS,
93 Nassau St., New York City.

New Ontario.

DO YOU WANT A FARM ?

WRITE for information concerning Government lands for homesteading in the various districts of New Ontario.

Hon. E. J. DAVIS,

Commissioner of Crown Lands,

TORONTO, ONT.

Shorthorns and Berkshires

Four young bulls, 6 to 12 months old. Pigs, 2 to 6 months old. Pairs supplied not akin.
MAC CAMPBELL, NORTHWOOD, ONT.

R. Mitchell & Son, Nelson, Ontario.

Scotch Shorthorns.

Twenty-five (imp.) bulls and heifers of following families: Jilt, Roan Lady, Augusta, Rosebud, Mayflower, Rosemary, Beauty, Victoria, Orange Blossom and Princess Royal. Also home-bred heifers in calf to imp. bulls and choice bull calves.
HARRINGTON Jct. Station and Tele. Office.

Queenston Heights

Shorthorns

SCOTCH AND SCOTCH TOPPED.

Headed by the Sittylon Secret bull, Imp. Derby, assisted by Lord Montalis—39279—, sired by Hon. John Dryden's Duthie-bred Collynie Archer. Young stock of both sexes for sale.

HUDSON USHER, QUEENSTON, ONTARIO.

Farm 3 miles north of Niagara Falls.

"Happy New Year!"

THAT'S what everybody wants. We truly wish it to every reader, and we will make you happy too if you feed

HERSEE'S RELIABLE STOCK FOOD

to your stock this year. It is doing it for others, and it will do it for you. Most wonderful stock food known for feeding horses, cattle, sheep, hogs, and calves. You only need to feed it one week to your cow to show you what it will do for you. 7-lb. bag, 50c. Stock book free. Ask your dealer.

E. HERSEE, MANUFACTURER,
WOODSTOCK, ONTARIO.

GOSSIP.

John Miller & Sons, Brougham, Ont., write: "We have just sold to F. Martindale & Son, York, Ont., the young Shorthorn bull, Bando-leer. This bull is out of Imp. Red Bessie 2nd, and got by the imported Duthie bull, Sirius, the sire of so many good ones. Red Bessie 2nd is out of same cow as Lord Banff, sold at Mr. Platt's Chicago sale for \$5,100. With this breeding, Bando-leer should be a valuable sire. Mr. Martindale takes with this bull a good yearling heifer in Victoria 5th. Mr. W. R. Elliott, of Guelph, gets an extra good calf in Royal Hero, out of Lydia 7th, and sired by Royal Prince (71490). We are getting some nice calves from some of our best cows, all heifers so far. We still have an extra good red bull calf out of Imp. Red Bessie 2nd. Also a good red calf out of Imp. Rosa Hope 15th. We are getting lots of enquiries for young bulls, and have no trouble selling when buyers come to see them."

From December 17th to December 23rd inclusive, seven days, the Holstein-Friesian cow, Mercedes Julip's Pietertje 39480, produced 584 lbs. milk, containing 23,487 lbs. butter-fat, equivalent to 29 lbs. 5.7 ozs. butter 80 per cent fat, or 27 lbs. 6.4 ozs. 85.7 per cent fat. This record was made by Minnesota Experiment Station, under the direction of Prof. T. L. Haecker. The last three days of the test this cow was under the supervision, day and night, of two representatives of that station. The product during these three days was 10,522 lbs. fat. The largest product for one day was 3,784 lbs., and was made when under constant watch, on the sixth day of the test. The average per cent. of fat during week was 4.02 per cent.; during the three days under constant watch-care it was 4.21 per cent.

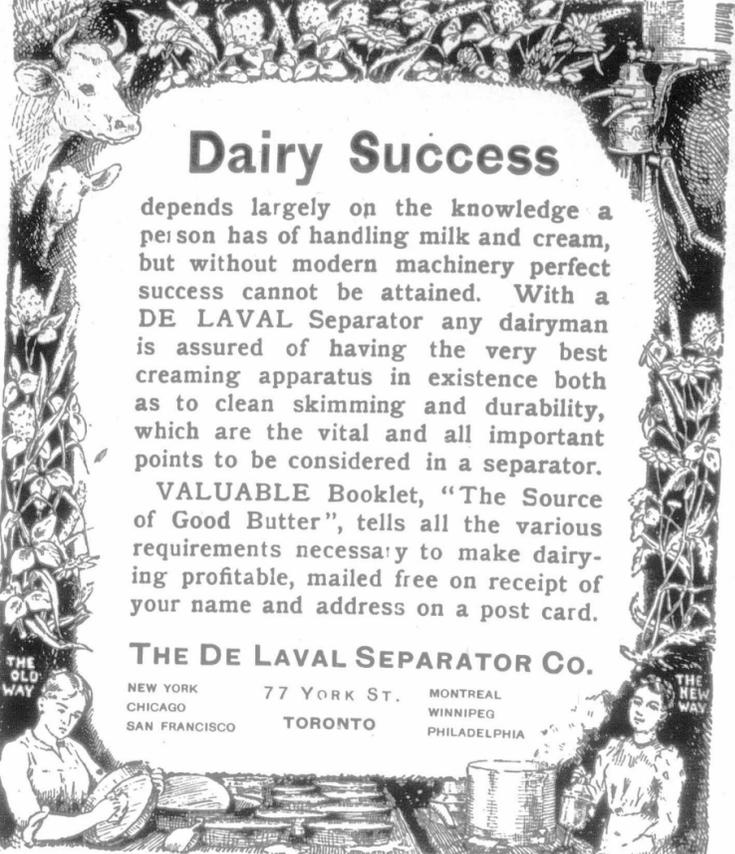
Lawnridge Stock Farm is situated in the County of Peel, one mile from Norval station and seven miles from Brampton, G. T. R. The owner, Mr. J. L. Clark, whose post office is Norval, Ont., is extensively engaged in the breeding of pure-bred Jersey cattle. This herd, which now numbers 100 head, was founded over 30 years ago, and is probably the oldest Jersey herd in Canada, being founded on pure-bred animals imported from the United States by Mr. Hugh Clark, and none but the choicest of animals, both in breeding and individuality, have been used. As might be expected from such a rational and common-sense policy, the herd today stands in the very first rank among the Jersey herds of the Dominion, containing as it does representatives from the herds of Mr. H. Babcock, of Friendship, N. Y., and Miller & Sibley, of Franklin, Pa., besides a number of choice animals bred in the various leading herds in Canada. A glance at a few of the sires that have been used in this herd will show the great care that has been exercised to use only the very best: The great show bull, Nabob's John Bull 17866, winner of first at Toronto, sired by Canada's John Bull; Mighty Dollar 24051 (sired by the great 100 Per Cent), three times the Toronto champion, winner of the sweepstakes medal at London, and of numerous first prizes at county shows; St. Lambert of Primrose 32694, sired by Canada's John Bull 5th; and Bin of Dentonia 52011, a Toronto champion, son of Prince Frank, three times a champion at London. The present stock bull, Pride of Alton 45104 (sired by Yogi 37702, dam New Trilby 103318), was bred by C. H. Babcock, N. Y., and is a grandson of the great Stoke Pogis 5th, and traces to Sweet Briar of St. Lambert, whose record is 22 lbs. 10 ozs. of butter in 7 days. As a show bull, besides his numerous local winnings, he won second prize at the Western Fair, London, in 1897. His lieutenant in service is Highfield's Prospect 59872, bred by Miller & Sibley, of Pa., sired by Ida's Rioter of Prospect 45285, dam Olivia Albertine 3rd 83438. The dam of Ida's Rioter has a record of 29 lbs. 10 ozs. in a week, and Ida's Rioter is considered by Messrs. Miller & Sibley their best stock bull. There are in the herd a number of heifers in calf to this bull; also a number in calf to Bin of Dentonia 52011, the bull that captured the medal and sweepstakes in Mr. Massey's herd at Toronto Exhibition in 1900.

Prominent among the dams in the herd is the cow Lily of Avondale 75064, with a butter record of 17 lbs. 12½ ozs. in 7 days, on ordinary winter feed. Another extra good one is John's May 73368, sired by Nabob's John Bull. This cow gave 60 lbs. of milk a day, and is an exceptionally sweet model of dairy-cow perfection. Irene Sibley 2nd 118286 is another good one sired by Sweetness Per Cent 30706. Still another is Princess Bonnie Bird 112824, sired by Lord Harry 3rd 27964. Among the younger females is a full sister to Duchess of Berlin, who gave five pails of milk a day, and sold for \$245 at Mr. Reid's sale at Berlin. Thus we might go on, for there are dozens of others nearly or quite as good, showing the desirable conformation and smoothness essential in the heavy-milking cow. Mr. Clark is offering a number for sale of both sexes and all ages, that for breeding and individuality are hard indeed to duplicate. Notwithstanding the time and care necessary in looking after his large herd of cattle, Mr. Clark finds time to pay considerable attention to his useful herd of Berkshire hogs, which contains some excellent animals. The foundation of the present herd was founded 20 years ago on animals purchased from the noted Snell herd, and high-class sires have been continuously used, keeping the character of the herd up to date in type.

Following is a summary of a list of public sales of pedigreed cattle, held in the United States in 1901:

Breed.	No. sold.	Total.	Average.
Shorthorns.....	4,045	\$1,136,290 95	\$280 91
Angus.....	894	248,025 00	277 43
Herefords.....	1,885	458,305 00	243 80
Red Polls.....	79	18,210 00	230 50
Polled Durhams.....	243	52,625 00	216 56
Galloways.....	68	14,115 00	207 57

Grand total.....7,214 \$1,927,570 00 \$267 20
Highest prices.—Shorthorns—Bull (Imp. Lord Banff), \$5,100; cow (Imp. Missie 133rd), \$6,000; Herefords—Bull (Beau Donald 33rd), \$2,000; cow (Dolly 2nd), \$3,000; Angus—Bull (Orwin of Longbranch), \$1,300; cow (Imp. Krivina), \$1,700; Polled Durhams—Bull (Lambard Cig), \$1,000; cow (Beech of Stillwater), \$1,005; Galloways—Bull (Imp. Lady Harden 4th), \$500; Red Polls—Bull (Gratwick), \$365; cow (Prize Blossom), \$1,005.



Dairy Success

depends largely on the knowledge a person has of handling milk and cream, but without modern machinery perfect success cannot be attained. With a DE LAVAL Separator any dairyman is assured of having the very best creaming apparatus in existence both as to clean skimming and durability, which are the vital and all important points to be considered in a separator.

VALUABLE Booklet, "The Source of Good Butter", tells all the various requirements necessary to make dairying profitable, mailed free on receipt of your name and address on a post card.

THE DE LAVAL SEPARATOR CO.

NEW YORK 77 YORK ST. MONTREAL
CHICAGO WINNIPEG
SAN FRANCISCO TORONTO PHILADELPHIA

NOTICE:

I desire to thank the farmers and others for their ever-increasing patronage. We are changing the process of manufacture and improving the quality of Queenston cement from year to year, and beg to assure my patrons that the improvements I am making this winter will still add to the wonderfully good reputation of Queenston cement. I will do all in my power to assist the farmers in getting up first-class buildings that are cheap and labor-saving, with first-class sanitation by a proper system of ventilation held under my own patent. Until the 15th day of March, 1902, Queenston cement will be sold at a reduced price. On and after Feby. 1st I will add a draughtsman to my office staff, and to all patrons of Queenston cement pencil sketches of the most approved farm structures will be furnished free of charge. For particulars write me at this office, or see my agents:

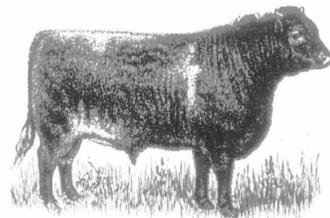
Isaac Usher, Queenston, Ontario.

Spring Grove Stock Farm.

Shorthorn Cattle

AND
Lincoln Sheep.

HERD prize and sweep-stake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by the Marr Missie bull, Imp. Wanderer's Last, last of the



get of the great sire, Wanderer, of the Cruickshank Brawith Bud tribe. High-class Shorthorns of all ages for sale. Also prize-winning Lincolns. Apply on

T. E. Robson,
ILDERTON, ONT.

ARTHUR JOHNSTON, GREENWOOD, ONTARIO.

BREEDER OF

POST OFFICE AND TELEGRAPH OFFICE.

IMPORTER OF

SHORTHORNS ONLY.

FOR SALE: 9 imported bulls and bull calves. 11 home-bred bulls and bull calves, from imported cows and by imported bulls. 17 home-bred bull calves. A large and excellent lot of young cows and heifers of various ages.

RAILWAY STATIONS:

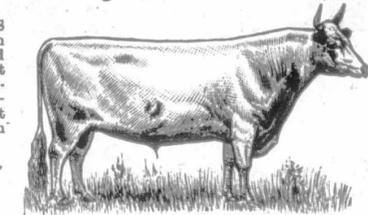
PICKERING, G. T. R., 22 MILES EAST OF TORONTO.
CLAREMONT, C. P. R., 28 MILES EAST OF TORONTO.

Rapids Farm Ayrshires.

REINFORCED BY RECENT IMPORTATIONS of 2 bulls and 20 cows, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows last year. Imported Douglasdale of Dam of Aber, champion at the Pan-American, heads the herd. Representatives of this herd won the first herd prize at the exhibitions at—

Toronto, London and Ottawa in 1900, and at the Pan-American in 1901.

Come and see or write for prices.



Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager

for W. Watson Ogilvie, Lachine Rapids, Quebec.

SUNNYLEA FARM.

Jerseys—6 yearling bulls; females for sale; any age. Tamworths—30 boars and sows, different ages. Shropshire sheep—rams and ewes of good breeding. Prices reasonable.

H. E. WILLIAMS, Knowlton, P. Q.

HOLSTEINS.

Maple Grove offerings are of the richest breeding, combined with greatest individual merit. Young stock of both sexes. For particulars address:

H. BOLLERT, Cassel, Ontario.

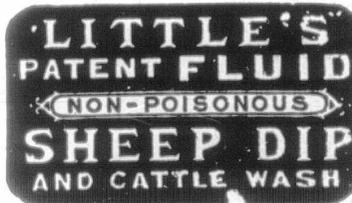
MAKE THE GROCER'S PROFITS.

Why pay your local storekeeper \$1 for 85 cts. worth of goods? Buy direct from the manufacturer and importer and save one seventh of your grocery bills.

The average family spends \$280 a year for groceries; we can save you \$40 of this. At the end of each year put this \$40 in the bank at the regular bank interest of 6% and when you are twenty years older you will have a nest egg of \$1411.13 to your credit.

Do not lose any more of your hard-earned money, but write at once for price lists and we will astonish you. Bank references.

CRIGHTON & CO., Wholesale Grocers, Toronto, Ontario.



THE ORIGINAL

Non-Poisonous Fluid Dip

Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large breeders.

For sheep.

Kills ticks, maggots; cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.

Cattle, horses, pigs, etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection.

No danger, safe, cheap, and effective

Beware of Imitations.

Sold in large tins at 75 cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.

SEND FOR PAMPHLET.

Robert Wightman, Druggist, Owen Sound.

Sole agent for the Dominion.

Spring Brook Holsteins, Tamworths, B. Rocks

One bull, 11 mos old; 2 calves, 6 weeks old; 4 yearling heifers in calf; 2 cows; also heifer calves, all DeKols. Two Tamworth boars ready for service. Sows and young pigs ready to ship.

A. C. Hallman, New Dundee, Ontario.

Brookbank Holsteins

16 to 25 lbs. of butter in 7 days' official test are the records of this herd of Holstein cows. Heifers of equivalent records. Bulls for sale whose sires and dams are in the Advanced Registry, with large official butter records.

GEO. RICE, Currie's Crossing, Ontario. OXFORD COUNTY.

Ridgedale Farm Holstein-Friesians for Sale.

2 yearling bulls; also bull and heifer calves; all of choice breeding. Prices always reasonable. Write, or come and see them. R. W. WALKER, Utica, P. O. Shipping stations: Port Perry, G. T. R.; Myrtle, C.P.R.

PLEASE MENTION FARMER'S ADVOCATE.

SUCCESS WITH HOLSTEINS

depends on starting right. Brookside has furnished foundation stock for some of the best herds in the country. We have 250 head, and if you want to establish or strengthen a herd, can supply you with animals of the right sort. We have 50 young bulls on hand, and females bred to the best sires living. Let us know just what you want. Catalogue of bulls now ready. We also have six fine thoroughbred Jersey Red boars, 6 months old, for sale, \$9 to \$10 each.

HENRY STEVENS & SONS, LACONA, OSWEGO CO., N. Y.

4 HOLSTEIN BULLS 4 FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aaggie, and Tritonia Prince, and out of imported females that have proven their worth at the pail. THOS. B. CARLAW & SON, Warkworth.

Maple Glen Stock Farm.

EXHIBITION OFFERING: Two bull calves under 1 year. Also a Sylva and an Abbekirk bull calf, with spring and fall heifer calves of Sylva breeding, bred from winners and ones that will make winners. Prices according to quality.

C. J. GILROY & SON,

Brookville, on C.P.R. and G.T.R. Glen Buell, Ont.

Exmoor Jerseys for sale: Ace of St. Lambert One bull calf by Sirdar of St. Lambert. Also a registered cow 4 years old.

A. Norman Smith, Meaford P. O. and Stn.

We have now on hand young females sired by Nero of Glen Rouge 50241, and cows and heifers bred to him.

E. B. HINMAN & SON, GRAFTON, ONT.

CHOICE JERSEYS.

Offering 1 cow 5 years old, due to calve Feb. 6, very choice; bull calf 11 months old, registered, and cheap.

WM. N. HASKETT, Avon Manor, Markdale, Ont.

Jerseys and Cotswolds. For sale, three-year-old stock bull, Count of Pine Ridge 53662, a grandson of Adelaide of St. Lambert, that gave 824 lbs. milk in a day, and 2,005 lbs. in a month. Also two of his sons—one year old, and a few daughters; and a useful lot of Cotswold rams and ewes. For particulars and price write:

WILLIAM WILLIS, Newmarket, Ontario.

RIDGELING CASTRATION.

Dr. J. WILSON, V. S., WINGHAM, ONT., Specialist in the castration of ridgelings, horses and colts. Terms and testimonials on application.

F. L. GREEN,

BREEDER OF

Jersey Cattle and Yorkshire Pigs.

Choice stock of each sex for sale.

PICKERING STATION, G. T. R. GREENWOOD P. O. CLAREMONT STATION, C. P. R.

FOR SALE: A SPLENDID LOT OF Jersey Cattle.

41 HEAD TO CHOOSE FROM.

Close descendants of my most noted prizewinners, and closely related to many animals I have sold that have won easily in the Northwest and all over Canada. My shipments last summer ranged from Manitoba to State of Delaware, U. S.

MRS: E. M. JONES, BOX 324, BROCKVILLE, ONT., CAN.

BRAMPTON JERSEY HERD

Offers: 3 St. Lambert bulls from 6 to 14 months old, out of high testing cows; 1 yearling and 5 bull calves, sired by Brampton's Monarch (imp.). Four young bulls sired by him won 1st, 2nd and 3rd prizes under one year, and 1st prize under six months, also 1st, 2nd and 3rd at London and Ottawa, in 1901. The best is none too good. These young bulls have never been beaten. Get one to head your herd.

B. H. BULL & SON, BRAMPTON, ONT. G. T. R. and C. P. R. Stations.

Live Stock Labels in large or small lots. Also odd numbers supplied. Send for circular and price list. R. W. James, Bowmanville, Ont.

"Popularity Is a Proof of Excellence."

THE UNRIVALLED POPULARITY OF

Bibby's Cream Equivalent

As a Substitute for Milk or for Enriching Separated or Skimmed Milk for Calf-Rearing is explained by the fact of its being the best article on the market for this purpose.

IT IS AN EASY MATTER TO TRY IT.

PRICE: 50-lb. bag, \$2.00; 100-lb. bag, \$3.50; freight prepaid to nearest railroad station. To be obtained from local dealers or direct from

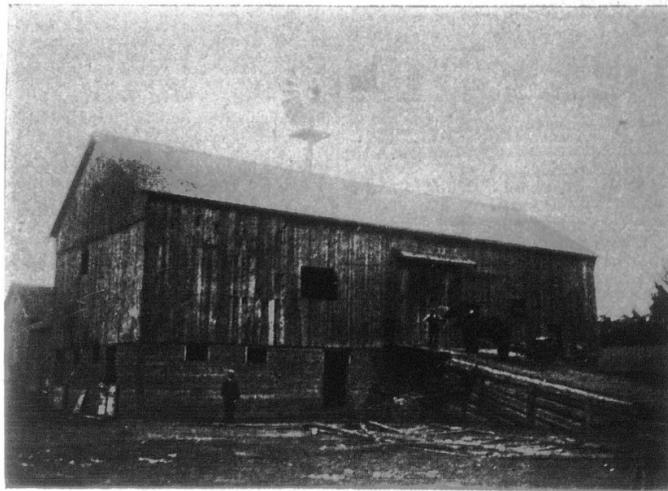
J. Bibby & Sons, 10 Bay St., Toronto.

STILL THEY COME.

ANOTHER PLEASSED USER TESTIFIES TO THE STERLING QUALITIES OF

BATTLE'S THOROLD CEMENT

READ WHAT MR. ARMSTRONG SAYS.



BASEMENT BARN OF ELIJAH ARMSTRONG, LAMBTON CO. Size of wall 35 x 80 feet, and 11 feet high in places.

Walls of barn and floors of stables were made with Battle's Thorold Cement.

ESTATE OF JOHN BATTLE, Thorold, Ont.: ABERFELDY, Ont., Oct. 22, 1900.

GENTLEMEN,—It is with much pleasure that I testify to the good qualities of your Thorold Cement. I erected this summer under my barn a wall which in places is 11 feet high (size of building, 35 x 80). I have also floored stables with it, and erected concrete root-house, using nearly 200 barrels of your cement. The work was done under the supervision of William Hand, a man who is master of his trade. I might just add that Mr. Hand owns one of A. E. Hodgert's concrete mixers, a machine which will save a lot of hard labor in erecting concrete walls, mixing a batch of cement and gravel in three minutes better and more uniformly than any hand mixing can do. I remain, Yours truly,

ELIJAH ARMSTRONG, Breeder of Shorthorn cattle, Euphemia township, Lambton Co.

Write for free pamphlet, prices and information. *Agents wanted in unrepresented districts.

ESTATE OF JOHN BATTLE, THOROLD, ONTARIO.

MANUFACTURERS OF THOROLD CEMENT.

JERSEYS FOR SALE.
Two choice bull calves of the highest breeding and of true dairy type, at moderate prices.
W. W. EVERITT, Chatham, Ont.
DUN-EDIN PARK FARM. P. O. BOX 552.

LAWNRIDGE STOCK FARM.

JERSEYS FOR SALE: Yearling bull, 5 bull calves, also some very fine registered cows, heifers and heifer calves—fresh calved and springers. One hundred head to select from. Cows a specialty.
J. L. CLARK,
Norval station: G. T. R. Norval P. O.

FOR SALE:
Three grandly-bred Ayrshire bull calves, 12 to 15 mos. old. Also young calves, by Napoleon of Auchencrain (imp.), whose dam has a record of 72 lbs. of milk per day. A few choice young Berkshires and Yorkshire sows could be served before shipping. Collie pups, from Perfection Queen. Address—
T. D. McCALLUM,
Nether Lea. Danville, Que.

Water Basins.
WOODWARD WATERING BASIN PAT. MAR. 21, 1910
O. W. E. & P. CO.
MANUFACTURERS TORONTO
EIGHT REASONS FOR ADOPTING THE Woodward Water Basin.
6th.—The water is delivered to each animal at just the proper temperature. Cold water retards the process of digestion, thereby diminishing the milk flow. In the Woodward system the water is taken at the basin at the right time.
Seventh reason appears next issue.

Ont. Wind Engine & Pump Co., Ltd.,
TORONTO, ONT.

Free for five wrappers: Lee's book, containing 386 pages, 3,000 recipes for home and farm. Prof. A. V. M. Dav's English Tonic Powders (5 separate packages) for horses, cattle, hogs, sheep, and poultry. They make health and flesh. Mail us the front part of five wrappers and receive book FREE.
Price: 35c. a package, 5 for \$1.50.

For Dairy Cows
Feed Day's Butter-fat Producer.

It makes more milk and butter-fat; gives the butter color; imparts a flavor to the butter that is not obtained by any other feed. Write us a post card for free sample. Warranted purely vegetable.

The Day's Stock Food Co., Toronto.

Homecroft, a farm for dairying and pure-bred stock. Ayrshires, Improved Ches-ter Whites, Barked Ply-mouth Rocks. Some fine young bulls.
J. F. Parsons & Sons, Barnston, Quebec.

NO HUMBAG—3 Perfect Tools in One.
Humbag Swivels, Stock Marker and Calf Separator. Stops swine of all ages from rooting. Makes 40 different ear marks, large or small. No change of blades. Extracts fleas. Testimonials free. Price \$1.50, or send \$1.00, get it on trial. If it suits, send balance. Paid Apr. 23, 1901.
FARMER BRIGHTON, FAIRFIELD, IOWA.

Maple Cliff Dairy and Stock Farm.

AYRSHIRE CATTLE, IMPROVED BERKSHIRE AND TAMWORTH PIGS.
FOR SALE: 5 bull calves, a few heifers; young pigs, pairs not skin; 3 boars, 4 months old; young pigs. Farm adjoins Central Experimental Farm, Ottawa.
R. REID & CO., Hintonburg, Ont.

TREDINNOCK AYRSHIRES

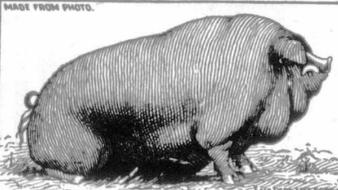
Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchencrain, and Lord Dudley. Forty imported females, selected from leading Scotch herds, and their produce from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars address
JAMES HODEN, Mgr.,
St. Anne de Bellevue, Quebec.
Farm close to St. Anne Station, Quebec.
G.T.R. & C.P.R., 20 miles west of Montreal.

AYRSHIRES.

I offer four choice August (1901) bull calves, two yearling heifers due to calve next August to imported bull, and a pair of March and April heifer calves. All bred from imported stock of choice milking strains.
W. W. BALLANTYNE, Stratford, Ontario.
"Neidpath Farm" adjoins city, main line G.T.R.

FOR SALE:
IMPORTED AND HOME-BRED **AYRSHIRES,** including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write.
WM. WYLIE, - HOWICK, QUEBEC.

LARGEST HOG IN THE WORLD
WEIGHT 1621 LBS.



The Poland-China hog called "Old Tom" was raised in Minnesota and was exhibited at Minnesota State Fair in 1897. He made a Big Gain by eating "INTERNATIONAL STOCK FOOD." "INTERNATIONAL STOCK FOOD" causes Hogs, Cattle, Horses and Sheep to grow very rapidly and makes them Big, Fat and Healthy. It is used and strongly endorsed by over 500,000 Farmers. It is sold on a Spot Cash Guarantee to Refund Your Money in any case of failure by over 30,000 Dealers. It will make you extra money in Growing, Fattening or Milking. Owing to its blood purifying and stimulating tonic effects it Cures or Prevents Disease. It is a safe vegetable medicinal preparation to be fed in small sized feeds in connection with the regular grain. It Fattens Stock in 30 to 60 Days less time, because it aids Digestion and Assimilation. In this way it saves a large amount of Grain. The use of "INTERNATIONAL STOCK FOOD" only costs 2¢-3 FEEDS for ONE CENT. Ask your dealer for it and refuse any of the many substitutes or imitations. It always pays to feed the best. "INTERNATIONAL STOCK FOOD" is endorsed by over 100 leading Farm Papers.

A \$3000.00 STOCK BOOK FREE
IS MAILED TO EVERY READER OF THIS PAPER.
This Book Contains 133 Large Colored Engravings of Horses, Cattle, Sheep, Hogs, Poultry, etc., and of this Hog. It costs us \$3000 to have our Artists and Engravers make them. It contains a finely illustrated Veterinary Department that will save you Hundreds of Dollars. Gives description and history of the Breeds of Horses, Cattle, Sheep, Hogs and Poultry.

THIS BOOK FREE, Postage Prepaid, if You Write Us a Postal Card and Answer 3 Questions:
1st—Name this Paper. 2nd—How much stock have you? 3rd—Did you ever use "INTERNATIONAL STOCK FOOD" for Horses, Cattle, Sheep, Hogs, Colts, Calves, Lambs or Pigs. The Editor of this Paper will tell you that you ought to have a copy of our finely illustrated Book for reference. The information is practical and the book is Absolutely Free. We will give you \$14.00 worth of "INTERNATIONAL STOCK FOOD" if Book is not exactly as represented. We Won the Highest Medal at Paris in 1900.

INTERNATIONAL FOOD CO.,
MINNEAPOLIS, MINN., U. S. A. **3 FEEDS FOR ONE CENT**

AYRSHIRES.
Five bulls ranging from 11 to 23 mos., from such noted cows as Jean Armour, Lady Ottawa, Sprightly and Primrose (imp.), and from the best sires procurable. Also heifers and cows all ages, and poultry.
WM. STEWART & SON, MENIE, ONT.

Ayrshire Bulls from 1 1/2 years to 6 months, from special milking stock, sired by the sweepstakes bull, Cock of the North—9997—, also females all ages. Berkshires sheep. Berkshire pigs, either sex, and B. P. Rocks. For particulars write
J. YULL & SONS, Carleton Place, Ontario.

SPRINGHILL FARM.
Importers and breeders of choice, deep-milking **Ayrshires**
Males and females for sale.
ROBERT HUNTER & SONS, Maxville, Ont.

5 AYRSHIRE bull calves for sale, from 6 to 12 months old. Sired by Klondyke of St. Ann's 8897. Their dams are heavy milkers, with good udders and teats. Inspection invited.
W. F. STEPHEN, Trout River, Quebec.
(Carr's Crossing, G. T. Ry.)

AYRSHIRE CATTLE AND POULTRY.

FOR SALE: Royal Star of St. Anne, 1st-prize bull at Toronto and London, also heifer calves, heifers and cows from dams with milk records from 40 to 64 lbs. per day. Price from \$35 to \$80 each. Barked Plymouth Rocks, Black Minorcas, Cornish Indian Game, \$1.50 each. Four pair Toulouse geese, \$1.00 per pair. For particulars write
WILLIAM THORN,
Norfolk Co., Lynedoch, Ontario.
Front Run Stock Farm.

English Shorthorns.

Booth and Bates Shorthorns, topped with Cruikshank bulls. Young cows, bulls and heifers always on hand for sale. Eligible for the American herdbook. Royal and Highland prizewinners included for the last two years. Close on £400 won in prizes last year and this.
WM. BELL,
Ratcheugh Farm, Alnwick, Northumberland, Eng.

Ayrshire

HERD of 150 cows and heifers bred from deep milkers, with large teats, of a commercial stamp. Established over half a century. **J. & A. Wilson,** Boghall Farm, Houston, Renfrewshire, Scotland.

PEDIGREE AYRSHIRES.

Cows and heifers, all bred from prizewinning stock at the leading shows.
Robert Wilson, Mansurac, Bridge of Weir, Renfrewshire, Scotland.

Lincoln Longwool Sheep Breeders' Association.

Lincoln Ram Sales,
1902.

The 14th and 15th sales of Lincoln Longwool rams by members of the Association will be held in Lincoln as follows:
8th August, 400 rams.
5th Sept., 500 rams.

The sheep will be on view during the afternoon of the Thursday preceding each day of sale.
St. Benedict's Square, STEPHEN UPTON,
Lincoln, Dec. 1901. Secretary.

FAMOUS ALL OVER THE WORLD
ALFRED MANSELL & CO.,
LIVESTOCK AGENTS AND EXPORTERS,
SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to **ALFRED MANSELL & CO.,** Shrewsbury, England, or to our American representative, **Robert Miller, Stouffville, Ont., Canada.**

EUROPEAN ADVERTISEMENTS.

J. E. CASSWELL'S
LINCOLNS. Laughton, Folkingham, Lincolnshire, England.
Breeder of Lincoln Long-wooled sheep. Flock No. 46. At the Palermo Show, 1900, 25 rams bred by J. E. Casswell averaged 254 each; 14 of the best averaged 263 each, this being the highest sale of the season in the Argentine. Rams and ewe hogges and shearlings for sale; also Shire horses, Short-horns, and fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingham, G. N. R.

WALTON HERD
OF
PEDIGREE PIGS.
The property of Sir Gilbert Greenall, Bart., Walton Hall, Warrington, England.
This herd is unrivalled for its true type, large size and strong constitutional vigor. It is the premier herd in England at the present day. Its show-yard career is unique, the champion prize for the best Large White pig at the R. A. S. E. having been won by pigs bred in the herd in 1896, '97, '99 and 1901, besides leading prizes too numerous to mention at all the principal agricultural shows in England.
A choice selection of boars and sows for sale. Inspection invited. All purchases carefully shipped. For particulars, apply to the Manager, **M.R. J. HALLAS, Higher Walton, Warrington, England.** Railway stations:—Warrington (Bank Quay) per L. & N. W. Ry.; (Central) per Midland, G. N. or G. C. Ry. Telegrams, "HALLAS Higher-Walton."

W. W. CHAPMAN,
Secretary of the National Sheep Breeders' Association,
Secretary of the Kent or Romney Marsh Sheep Breeders' Association,
and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.
Address: **FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W.**
Cables—Sheepcote, London.

LEICESTERS.

Our present offering are all ages and both sexes. Choice animals.
C. & E. WOOD, FREEMAN, ONTARIO.

SOUTHDOWNS AND COLLIES.

Imported and home-bred prizewinning aged sheep. After the Pan-American a number of particularly good ram and ewe lambs. Collie puppies by imported Holyrood Leek and champion Alton Monty, out of noted prizewinning dams.
ROBT. MCEWEN, BYRON, ONT.
ALLOWAY LODGE STOCK FARM. Railway Stn., London.

FARNHAM FARM

Can sell 40 superior Oxford Down ewes in lamb to "Bryan 125" and "Hampton Duke." Five ewes of different ages. Also 100 good ram and ewe lambs. Choice Bronze gobblers and Barked Rock cockerels. Prices reasonable.
HENRY ARKELL,
Guelph, G. T. R. ARKELL, ONT.
Arkell, C. P. R.

BROAD LEA OXFORDS.

We have a choice lot of lambs this year, bred from our imported rams, Royal Warwick 3rd and May King 1st, some weighing 17 lbs. at birth. Also some good shearing ewes and rams. Also a few shearing ewes and rams fitted for show purposes. All of which we are offering for sale at reasonable prices.
HENRY ARKELL & SON,
Phone and telegraph, Teeswater, Ont.

SUMMERHILL OXFORDS.

Present offering: A choice lot of ram lambs and ewe lambs. Also 50 extra nice yearling ewes.
PETER ARKELL & SONS,
Teeswater P. O. and Station.

LIVE STOCK AUCTIONEER.

The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alma, and Mossom Boyd, Bobcaygeon. THOS. INGRAM, care Mercury Office, GUELPH, ONT.

W. H. BEATTIE, Wilton, Ontario,
IMPORTER AND BREEDER OF
Shropshire sheep, collie dogs, White Holland and Mammoth Bronze turkeys, and Barred Rocks.

FAIRVIEW

Has still a few good rams for sale. Also a limited lot of ewes, bred to choice rams.
Barred Plymouth Rock cockerels now for sale, at \$1 for good utility birds, and \$2 each for extra good ones.
JOHN CAMPBELL, Woodville, Ont.

IMPORTED COTSWOLDS

We are now offering some choice shearlings of both sexes; also this season's crop of lambs, sired by Imp. Swanwick.
BROOKS & LANGMAID,
COURTICE P. O.
SIX MILES FROM OSHAWA STATION, G. T. R.

COTSWOLD HILL STOCK FARM

Offers imp. and home-bred Cotswolds of both sexes and all ages, from the champion flock of Canada for the last six years.
JOHN PARK & SONS,
Burgessville P. O. and Stn.

Pure-bred Cotswolds—choice quality
JOSEPH FERGUSON, UXBRIDGE, ONT.,
BREEDER OF
PURE-BRED COTSWOLDS—choice quality
om UXBRIDGE P. O. AND STATION.

CHAS. GROAT,
BROOKLIN, ONT.,
OFFERS FOR SALE
Cotswold Ewes and Ewe Lambs
of good quality and breeding. Also a registered stallion, 1 year old, and one filly foal. Good ones. Write for particulars.

Linden Oxfords and Shorthorns

Flock composed of selections from the best English flocks and their progeny. None but the best imp. rams used. Stock for sale.
R. J. HINE, Dutton, Ont.

SMITH EVANS, GOUROCK, ONT.,

Breeder and importer of registered Oxford Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited.
6-1-y-o

FARMERS!
KEMP'S INSTANTANEOUS
Sheep Dip

Contains more value for the money than any other Dip on the market. We will send a tin prepaid to any part of Ontario for **ONE DOLLAR.** Half gallon, imperial measure, in each tin. It is the cheapest disinfectant for outbuildings, drains, etc.
W. W. Stephen,
MEAFORD, ONTARIO.

OXFORD DOWN SHEEP

This season's lambs, both sexes; yearlings, both sexes; breeding ewes, imp. and from imported stock. Young Shorthorns of both sexes for sale.
JOHN McFARLANE,
Dutton P. O. and Stn.

HIGH-CLASS SHROPSHIRE.

A flock of 75, of good type. Two-shear rams, shearing rams, ram lambs, ewe lambs, fine lusty fellows. Flock headed by a fine imported ram. Write for prices. **Abram Rutell, Hespeler P. O., Ont.**
om C. P. R. and G. T. R.

PLEASE MENTION FARMER'S ADVOCATE.

W. S. CARPENTER,
"MODEL FARM," SIMCOE, ONT.,
IMPORTER AND BREEDER OF
Shropshire Sheep.
Ram and ewe lambs for sale. Well covered.
Station One-half Mile from Farm,
Wabash and G. T. R., -om

50 REG. SHROPS. 50
FOR SALE:
Shearing and two-shear rams; also stock ram, bred by John Miller & Sons, and this season's crop of lambs ready for the fall trade. Foundation stock bred by Mansell, England. Prices moderate. A card will bring them.
ROWAT BROS.,
Phelpston station, G. T. R., 5 Hillsdale, Ont.
miles east. Simcoe County. -om

OHIO IMPROVED
Chester White Swine.
OLDEST ESTABLISHED REGISTERED
HERD IN CANADA.
Choice young stock, 6 weeks to 6 months old. Pairs and trios not akin. Registered pedigrees. Express charges prepaid. Safe delivery guaranteed. -o
E. D. George, Putnam, Ont.

A few **Chester Boars** fit for good service. Also some Dorset ewes and ewe lambs. Prices reduced for 30 days.
R. H. HARDING,
Thorndale, Ont. -om

Imported Poland-China Hogs. We are offering something extra choice, of both sexes, any age (pairs not akin), from imported stock, and of the true type. Easy feeders, rapid growers.
ROBT. L. SMYTH & SONS,
om Fargo P. O. and Station, M. C. R.

FOR SALE: Berkshires (both sexes), Shorthorn stock bull, cows, heifers and young bulls. Prices reasonable. Write or come and see us.
om A. J. C. SHAW & SONS, Thamesville, Ont.

Snelgrove Berkshires.
Our herd is unrivalled for its large size and bacon type. All bred from imported stock. We are offering now sows large enough to be bred, sows in pig, boars fit for service, and young pigs from 2 to 4 months old. Can supply pairs not akin. Write us. -o

SNELL & LYONS, Snelgrove, Ont.

Large English Yorkshires
Sows safe in pig, boars and sows ready to breed, boars and sows three to four months old. All lengthy, smooth, deep-sided type. Barred Rock cockerels, Miller strain. Write:
JAS. A. RUSSELL, Precious Corners P. O.,
Cobourg Station, G. T. R. -o Ontario.

WILLOW LODGE BERKSHIRES FOR SALE
Two boars, 7 months old; several litters, 6 weeks to 3 months. Also a number of young sows ready to breed, sired by Longfellow 10th of H. B. No. 8633, and Gallant Prince No. 7691. Pairs supplied not akin. om
WM. WILSON, Snelgrove, Ontario.

LARGE ENGLISH FOR SALE.
YOUNG boars and sows carrying the blood of Baron Lee 4th, Bright Star (imp.), Enterprise and Highclere, on Bow Park, Teasdale and Snell females, with Allandale Boy 5875 and Royal Lad 3rd 4307 heading the herd.
S. DYMENT, BARRIE, ONT.

SEVERAL YOUNG TAMWORTH SOWS AND BOARS
nearly ready to ship. Also a few ready for service, of both sexes. -o
P. R. Hoover & Sons,
Green River, Ont.

Coldspring Herd Tamworths.
Offer choice Oct. and Nov. boars and sows. Also my stock boar, Advance. This is the spot for the best. Write for prices. They are moderate, quality considered. om
NORMAN M. BLAIN, St. George, Ont.,
BRANT CO.

One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices. -o
H. GEORGE & SONS, Crampton P.O., Ont.



NEW methods in business are called for when you contrast conditions to-day with those of the old century. In a school the young idea is taught how to aim, but in this college he is taught how to shoot—in other words, he is equipped to do business. Parents and guardians will lay a solid foundation of success for their sons and daughters if they heed this instruction and have those in their care enrolled in one or other of the schools of this college.

The Federated Business Colleges OF ONTARIO, Limited,

- INCLUDE:
- The British American Business College Toronto, Ont. D. HOSKINS, Chartered Accountant, Principal.
 - The Hamilton Business College Hamilton, Ont. C. E. McCULLOUGH, Principal.
 - The Forest City Business College London, Ont. J. W. WESTERVELT, Principal.
 - The Sarnia (Nimmo's) Business College Sarnia, Ont. W. BROOKS, Principal.
 - The Metropolitan Business College Ottawa, Ont. S. T. WILLIS, Principal.
 - The Galt Business College Galt, Ont. G. E. WIGGINS, Principal.
 - The Berlin Business College Berlin, Ont. J. W. WIGGINS, Principal.
 - St. Catharines' Business College St. Catharines, Ont. T. F. WAZHRT, Prin.

No better time than right now to enter—the new term is just under way. Write college nearest your home for yearbook and all particulars.

Tamworths, Berkshires, and OXFORD DOWN SHEEP.
Young stock for sale at all times. Correspondence solicited. -o
D. J. GIBSON,
Hazel Dell Stock Farm. Bowmanville, Ont. Box 38.

BOARS FOR SALE.
We have a few choice Yorkshire boars to sell at \$15 each. Sows and younger pigs always on hand. Herd headed by the second prize boar at Toronto, 1901. We still have a few extra fine Shropshire and Suffolk Down ewes at \$25 per pair. We also have a number of Aberdeen-Angus bulls and heifers to part with. -o
W. R. BOWMAN, Mt. Forest, Ont.

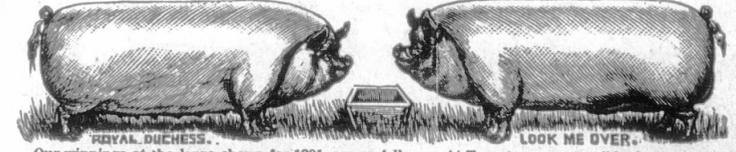
Improved Yorkshires FOR SALE,
of the most popular families. All ages and both sexes now ready for immediate shipment. Write for what you want. Prices reasonable—consistent with quality. -o
E. DOOL,
Hartington, Ont.

PINE GROVE FARM HERD OF Large Yorkshire and Essex Swine.
The oldest established herd in America. We bred Hasket 3rd—1937—sire of Oak Lodge Conqueror—2475—and also sire of Look Me Over, the sire of Summerhill Victor, the champion boar at the Pan-American and the late Chicago Exposition, and sold there for \$700. Personal inspection and correspondence solicited. Nine imported and twenty home-bred sows breeding.
JOSEPH FEATHERSTON & SON,
o STREETSVILLE P. O., ONT.
Streetsville stn., C.P.R. Clarkson stn., G.T.R.
YORKSHIRES
Headed by Oak Lodge Prince 5071. Litters 15 weeks, either sex; 2 sows to farrow.
WM. TEASDALE, Dollar, Ont.
Northern branch G.T.R., 15 miles from Toronto. om

FOR SALE: Yorkshires and Holsteins
Best type and quality. Young stock constantly on hand. Prices right. **R. HONEY,** om
Brickley P. O., instead of Warkworth.

LARGE WHITE YORKSHIRES.
An offering this month a superior lot of Yorkshire sows bred to Riddington Ensigne (imported). Young pigs up to three months of age, furnished in pairs not akin. A fine lot to select from. Write: -om
H. J. DAVIS, Woodstock, Ont.
Importer and breeder of Shorthorns and Yorkshires.
PLEASE MENTION FARMER'S ADVOCATE.

SUMMERHILL HERD OF Large English Yorkshires.
HEADQUARTERS FOR THE IDEAL BACON HOG.



Our winnings at the large shows, for 1901, are as follows: At Toronto every possible first prize and five seconds, two silver medals, and first for pen of pure-bred bacon hogs, also sweepstakes on bacon hogs over all breeds; at London every possible first but two; while at the Pan-American, where our herd was divided, half going to Toronto, we won six out of ten possible firsts, also sweepstakes on boar any age. At the Pan-American (Buffalo), Toronto and London there were thirty-six first premiums and medals given: all the medals and every first prize but six won by the Summer Hill Yorkshires. When in need of the best write **D. C. FLATT & SON, MILLGROVE, ONT.** Telephone: Millgrove, Ont.

Maplewood Herd

7 IMPROV'D LARGE YORKSHIRES
PRISEWINNERS AT
Pan-American Exposition, Buffalo.
21 HEAD PRIZEWINNERS 21
AND PRIZEWINNING BLOOD.
IMPORTED AND CANADIAN-BRED.
BABY FEEDERS. BEACON TYPE. STOCK FOR SALE. WRITE US WHAT YOU ARE WANTING.

IRA JOHNSON, BALMORAL, ONTARIO.
Nelles' Corners Station and Telegraph. -om

Large English Berkshires.
My herd consists of sows imported from England; three of them (including a show sow) were selected from the herd of Geo. Green and were bred to his show boars. Young stock for sale (not akin).
JNO. LAHMER, VINE, ONT.

Windsor Salt Makes Good Butter

Better Yet!

Best Grocers Sell It.

BARRED ROCKS.

A number of choice cockerels: large, strong-boned, robust, healthy birds, bred from my famous National strain, noted for large eggs and persistent layers. For prices write -o

W. C. SHEARER, BRIGHT, - ONTARIO.

Barred Plymouth Rocks.

We have a number of cockerels which we wish to dispose of within the next month. Will put them on express car at Guelph for \$1 each. If neighbors would buy together express charges would be much smaller. -o
JAS. BOWMAN,
Elm Park. Guelph, Ont.

Turkeys! Turkeys!!

Grand Mammoth Bronze turkeys, heavyweights—nothing but the best toms used. -o

E. S. BENNETT, Glanworth, Ont.

Mammoth Bronze Turkeys

Sired by 42-lb. tom. Cayuga ducks. Chester White swine (both sexes) from two to six months old; bacon type. Write for prices. -o

W. E. WRIGHT, GLANWORTH, ONT.

BARRED ROCKS (EXCLUSIVELY).—We have a large number of large, strong, vigorous cockerels, bred for utility, and good breeding hens. **A. E. SHEERLINGTON,**
Box 100. -o Walkerton, Ont.

BUILT FOR BUSINESS!
THAT'S THE IDEA.

The Cyphers Incubators
are positively warranted to last TEN YEARS, without repairs, and are guaranteed to OUTFIT, during three trials, any other make of incubator on the market — bar none. **THIS, OR YOUR MONEY BACK.** Used exclusively at Experimental Farms, Guelph and N. W. T., and Ottawa; Dominion Government Poultry Stations, Whitby, Truro (N. S.), and Quebec; also six American Experimental Stations, Daniels, the universal provider in Poultry Supply business, has the sole agency for the Cyphers Incubators and Brooders for Canada. Our list of Poultry Supplies are too numerous to mention here, but just drop us a line and state what you require. We handle nothing but the best. Satisfaction every time, or money refunded. -o Mention "Advocate."
C. J. DANIELS,
196 to 200 River St., TORONTO, ONT.

Family Knitter

Cheapest, Simplest, Best.
Price, **\$8.00.**
Write for circular. -o
Dundas Knitting Machine Company,
DUNDAS, ONTARIO.

YORKSHIRES and POULTRY

30 STRICTLY FIRST-CLASS young pigs, 5 to 13 weeks old, bred from imported prize-winning stock, smooth and easy feeders. A few choice cockerels in B. P. Rocks, White Wyandottes, White and Brown Leghorns, at \$1.00 each. -o
A. B. ARMSTRONG, Codrington, Ontario.

BOYS FOR FARM HELP.

The Managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The young immigrants are mostly between 11 and 13 years of age; all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained upon application to Mr. Alfred B. Owen, Agent Dr. Barnardo's Homes, 214 Farley Ave., Toronto. -o

BARRED ROCKS AND PEKIN DUCKS.

Best quality. Write for prices. -o
H. GEE & SONS, Fisherville, Ontario.
HALDIMAND CO.

FOR SALE:

Golden, Buff and White Wyandottes, S. S. Hamburgs, White Leghorns, Houdans, Golden Polands, at \$1 each. Also Embden geese at \$2 each. -o
R. J. LAURIE, -o Wolveaton, Ont.

HAVE YOU HEARD ABOUT CANADIAN INCUBATORS?

WRITE:
CANADIAN INCUBATOR & BROODER CO.,
TORONTO, CAN. -om

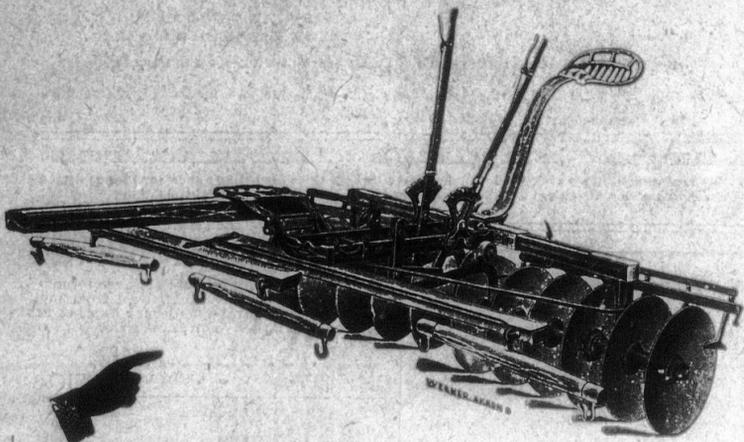
R. G. Rose GLANWORTH, ONT., offers for sale a choice lot of M. B. turkeys from his 40-pound imported yearling tom. Also Black Minorcas, W. Wyandottes, Barred, Buff and White Rocks. Pairs and trios mated not akin. -om

BELL..

PIANOS AND ORGANS

Built to Last a Lifetime by the
Largest Makers of Pianos and Organs in Canada.

The Bell Organ & Piano Co., Ltd.,
GUELPH, ONT.



SENSIBLE FARMERS use the best harrow they can get, while **OTHERS** HARROW their fields by the use of inferior implements.

PROGRESSIVE FARMERS who want their land thoroughly pulverized and **NEW SOIL WORKED UP**, will take an early opportunity to carefully look into the merits of **THE FROST & WOOD DISC HARROWS**.

We believe they are the best made.
You will think so when you see them.
Call on our agent and judge for yourself.

We make a full line of cultivating, seeding, haying and harvesting machinery.

Examine our goods. You will find something reasonable for 1902, and every line we make is **UP-TO-DATE**.

Head Office and Works:

Smith's
Falls,
Ontario.

The Frost & Wood Company
LIMITED

Branch Offices and Warehouses:

Toronto, Ont.
London, Ont.
Winnipeg, Man.
Montreal, Que.
St. John, N. B.
Toronto, N. S.

CANADIAN PACIFIC RY

TOURIST CAR SERVICE

Are running
Every
Tuesday
and
Saturday

Through Equipped Tourist Sleepers.
From TORONTO to VANCOUVER
WITHOUT CHANGE
Leaving TORONTO at 1.45
p.m. on days named.

In addition to second-class passage ticket, additional charge for berth in these sleepers is

Toronto to Winnipeg	\$4.00
" Regina	\$5.00
" Dunmore Jc.	\$6.00
" Calgary	\$6.00
" Revelstoke	\$6.50
" Vancouver	\$7.50

For full particulars apply to nearest C. P. R. Ticket Agent, or to A. H. NOTMAN, Asst. General Passenger Agent, Toronto. W. FULLERTON, City Passenger Agent, 161 Dundas St., cor. Richmond, London, Ont.

CHAMPION EVAPORATOR.

It requires more than double the amount of material to construct a Champion than an ordinary evaporator. The first Champion Evaporators, constructed twenty years ago, are in use at the present time. Thousands of Champion Evaporators are made and sold annually. We have three factories. Our entire attention is devoted to best methods of handling the maple product.



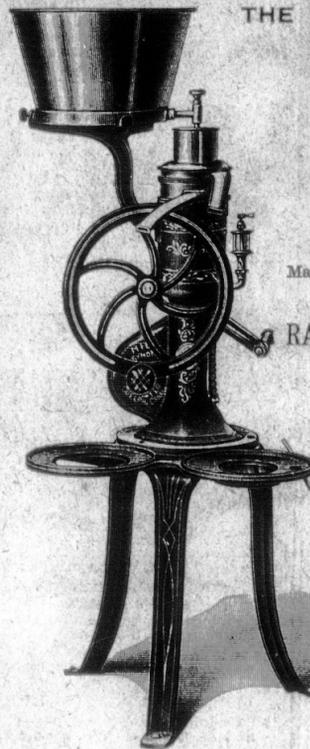
Send for Catalogue.

THE GRIMM MANFG. COMPANY,
84 Wellington Street, Montreal, Quebec.

CHOICE Scotch Collie Pups

FOR SALE. BOTH SEXES.
D. G. GANTON, "Holwell Manor Farm,"
ELMVALE, ONT.

THE NATIONAL CREAM SEPARATOR



Manufactured by the Raymond Mfg. Co. of Guelph, Limited, manufacturers of the celebrated

RAYMOND SEWING MACHINES.

The National combines all points of merit that are of real practical service to the everyday operator on the farm. Most simple in its construction. Convenient and easy to operate. Skims the cleanest; makes the sweetest cream; no numerous parts to give trouble and delay when washing; only two pieces inside of the bowl. Strong and durable, made of the finest material, so as to give the most lasting service, and most beautiful in design and finish. Every machine is guaranteed to do good work, and a trial of the "National" is solicited before purchasing. The already large sale of the "National," and the growing demand for it, shows how much the Canadian farmers appreciate a Canadian-made machine that does its work so easily and well, and at the same time returns such a large profit on the small investment. Ask for the "National"; try it and buy it.

National No. 1, capacity 330 to 350 lbs. per hour.

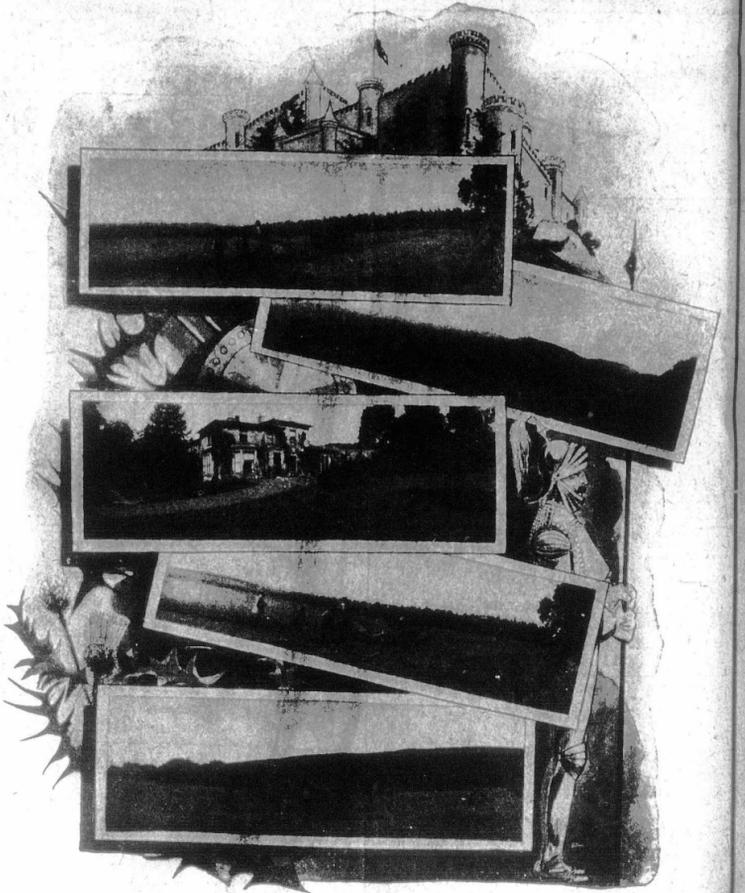
National No. 1 A, capacity 450 to 500 lbs. per hour.

GENERAL AGENCIES:

Jos. A. Merrick, Winnipeg, for Manitoba and N.-W.T. Creamery Supply Co., Guelph, for South-western Ontario. T. C. Rogers Co., Guelph, for Ontario North and East.

THE RAYMOND MFG. CO. OF GUELPH, Ltd.
GUELPH, ONTARIO.

THE BEST FARMERS USE DEERING LIGHT-DRAFT HARVESTERS



DEERING HARVESTERS USED ON THE ESTATE OF THE EARL OF MINTO.

DEERING HARVESTER COMPANY, CHICAGO, U.S.A.
CANADIAN BRANCHES: TORONTO, LONDON, MONTREAL, AND WINNIPEG.